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RECENT ACQUISITION REFORM THROUGH TECHNOLOGY AND WORKFORCE IMPROVEMENTS

September 2016

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**RECENT ACQUISITION REFORM THROUGH TECHNOLOGY AND
WORKFORCE IMPROVEMENTS**

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Submitted in partial fulfillment of the requirements for the degree of

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RECENT ACQUISITION REFORM THROUGH TECHNOLOGY AND WORKFORCE IMPROVEMENTS

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LIST OF ACRONYMS AND ABBREVIATIONS

ACAT IC	Acquisition Category I Component
ACAT ID	Acquisition Category I Defense
ACC	Army Contracting Command
ACC-APG	Army Contracting Command - Aberdeen Proving Ground
AFARS	Army Federal Acquisition Regulation Supplement
AF-IPPS	Air Force-Integrated Personnel and Pay System
AoA	Analysis of Alternatives
APG	Aberdeen Proving Ground
ASFI	Army Single Face to Industry
AWTF	Acquisition Workforce Training Fund
BBP	Better Buying Power
BSIG	Business Senior Integration Group
CAC	Common Access Card
CAE	Component Acquisition Executive
CAP	Critical Acquisition Position
CAPE	Cost Assessment and Program Evaluation
CAS	Cost Accounting Standards
CCR	Central Contractor Registry
CICA	Competition in Contracting Act
COCOM	Combatant Command
COO	Chief Operating Officer
COTS	Commercial Off the Shelf
CPARS	Contractor Performance Assessment Reports System
DACM	Directors of Acquisition Career Management
DAE	Defense Acquisition Executive
DAP	Defense Acquisition Portal
DAPA	Defense Acquisition Performance Assessment
DASA(P)	Deputy Assistant Secretary of the Army (Procurement)
DAU	Defense Acquisition University

DAWDF	Defense Acquisition Workforce Development Fund
DAWIA	Defense Acquisition Workforce Improvement Act
DCAA	Defense Contracting Auditing Agency
DCMA	Defense Contract Management Agency
DDR&E	Director of Defense Research and Engineering
DEAMS	Defense Enterprise Accounting and Management System
DFARS	Defense Federal Acquisition Regulation Supplement
DFAS	Defense Finance and Accounting Service
DMDC	Defense Manpower Data Center
DOD	Department of Defense
DoDI	Department of Defense Instruction
DPAP	Defense Procurement Acquisition Policy
ECSS	Expeditionary Combat Support System
EDA	Electronic Document Access
EPLS	Excluded Parties List System
ERP	Enterprise Resource Planning
FAPIIS	Federal Awardee Performance and Integrity Information System
FAR	Federal Acquisition Regulation
FARA	Federal Acquisition Reform Act
FASA	Federal Acquisition Streamlining Act
FEDBIZOPPS	Federal Business Opportunities
FFRDC	Federally Funded Research and Development Centers
FIAR	Federal Information Auditability Readiness
FOC	Full Operating Capability
FPDS	Federal Procurement Data System
FY	Fiscal Year
G&A	General and Administrative
GAO	Government Accountability Office
GFEBs	General Fund Enterprise Business System
GO	General Officer
GPRA	Government Performance and Results Act

GSA	General Services Administration
HASC	House Armed Services Committee
HMMWV	High Mobility Multipurpose Wheeled Vehicle
IED	Improvised Explosive Device
IRAD	Independent Research And Development
JCIDS	Joint Capabilities Integration Development System
JRAC	Joint Rapid Acquisition Cell
KLP	Key Leadership Position
LPTA	Lowest Price Technically Acceptable
MDAP	Major Defense Acquisition Programs
MDD	Material Development Decision
MRAP	Mine Resistant Ambush Protected
NCD	Natick Contracting Division
NCO	Non-Commissioned Officer
NDI	Non-Developmental Items
NERP	Navy Enterprise Resource Planning
OMB	Office of Management and Budget
ORCA	Online Representations and Certifications Application
OSD	Office of the Secretary of Defense
OUSDA	Office of the Under Secretary of Defense (Acquisition)
PCF	Paperless Contract Files
PD2	Procurement Desktop-Defense
PEO	Program Executive Officer
PIC	Performance Improvement Council
PIO	Performance Improvement Officer
PM	Program Manager
PPB&E	Planning, Programming, Budgeting and Execution
PPI	Past Participation Information
PPIRS	Past Performance Information Retrieval System
R&D	Research and Development
RFID	Radio Frequency Identification

RIF	Reduction in Force
SAE	Service Acquisition Agency
SAM	System for Award Management
SARA	Service Acquisition Reform Act
SBA	Small Business Administration
SPS	Standard Procurement System
SSB	Senior Steering Board
STEM	Science, Technology, Engineering, and Mathematics
TINA	Truth In Negotiations Act
UARC	University Affiliated Research Centers
UID	Unique Identification
USD(AT&L)	Under Secretary of Defense for Acquisition, Technology, and Logistics
WSARA	Weapons System Acquisition Reform Act

I. INTRODUCTION

This chapter will provide the reader with an overview of the Department of Defense (DOD) acquisition reform initiatives implemented from 1990 to the present in order to provide an understanding of changes in the acquisition workforce and the increase in automated reporting systems that have been a part of recent acquisition reform initiatives. This historical background information will serve as a foundation for the present state of acquisition processes and lay the groundwork for further investigation into what future reforms remain necessary. The importance of this research will be documented for the reader in this chapter, along with the methodology utilized to conduct the research. A problem statement will outline a clear and immediate need facing the defense acquisition community from which defined research questions and objectives will be presented for resolution throughout this thesis project.

A. BACKGROUND

Complications stemming from supporting various major conflicts in the Middle East beginning with the Gulf War in 1991, in conjunction with two separate budget crises during the late 1990s and late 2000s, contributed to the need for acquisition reform. The following information identifies and describes the themes of major acquisition reforms implemented by law or policy changes within the DOD since 1990. This is useful to understanding the larger picture of acquisition reform before focusing on workforce changes and automated reporting requirements as it relates to the DOD acquisition reform and improvements in the Defense acquisition process.

1. Acquisition Reform in the 1990s

Since 1990, the Government Accountability Office (GAO) has listed acquisition reform in the DOD on its list of high risk issues, particularly for major weapons system acquisitions. There have been multiple attempts at comprehensive acquisition reform throughout the history of defense acquisition with varying degrees of success and failure. The push for acquisition reform in the 1990s was guided by the philosophy put forth by the Packard Commission Report issued in 1986; the central and guiding theme being to

transform the procurement process to be more “responsive, effective, and efficient” (Hanks, Axelband, Lindsay, Malik, and Steele, 2005, p. xiv). The principle taken from the report and reiterated with each new push for reform was to overhaul the process to obtain systems “faster, better, cheaper” (Hanks et al., 2005, p. xiv).

Out of the reforms proposed in the Packard Commission Report, the Defense Acquisition Workforce Improvement Act (DAWIA) of 1990 was born (Eide & Allen, 2012). This reform generated the establishment of a formalized process to legitimize the acquisition workforce within the Defense Department through professional training culminating in the achievement of a certification that validates that they meet set standards of education, training, and experience required for their specific field within the acquisition community (Eide & Allen, 2012).

In 1993, the Government Performance and Results Act (GPRA) was enacted in an effort to improve performance and management internally throughout the Government requiring agencies to establish goals, measure their success in terms of achieving those goals, and report their progress to the Office of Management and Budget (OMB) (GAO, 2009). From this reform measure, agencies began developing strategic plans, performance plans, and reporting on progress toward the accomplishment of those planned goals to provide Congress with greater insight into problem areas (GAO, 2009).

Another landmark legislation that affected the DOD acquisition procedures followed with the Federal Acquisition Streamlining Act (FASA) of 1994. This law expanded upon the Competition in Contracting Act (CICA) of 1984 with the introduction of simplified acquisition procedures, regulations increasing small business participation, and further promotion of the use of fixed-price performance-based contracting while integrating the use of Commercial Off-the-Shelf (COTS) products wherever possible (Federal Acquisition Streamlining Act, 1994). The law also lifted the regulatory Truth in Negotiations Act (TINA) threshold for submission of cost or pricing data (Federal Acquisition Streamlining Act, 1994).

In an attempt to further streamline the acquisition process, the Federal Acquisition Reform Act (FARA), later renamed the Clinger-Cohen Act of 1996, granted contracting

officers greater latitude when making competitive range determinations as well as raising the dollar threshold enabling the use of Simplified Acquisition Procedures for commercial item acquisitions up to \$5 million (H.R. 1670, 104th Congress, 1996).

2. Acquisition Reform in the New Millennium

With the arrival of the new millennium, new initiatives were introduced to further revamp the acquisition process in hopes of reducing costs, condensing timelines to contract award, increasing quality of products, and eliminating roadblocks to efficient contracting. In 2003, the Service Acquisition Reform Act (SARA) was passed and accomplished a variety of changes. Among them, committing funds for training of acquisition professionals, incentivizing the use of performance-based contracting for services, authorizing the use of Time and Materials type contracts for the procurement of services, providing expedited procurement authority for acquisitions in support of contingency operations, and consolidating the acquisition workforce across the military branches into a single acquisition corps (Services Acquisition Reform Act, 2003).

The Weapons Systems Acquisition Reform Act (WSARA) of 2009 was the next major reform initiative and this law attempted to reduce total ownership cost and cycle time for development of weapon systems by preempting operational issues through focused decision making early in the design phase and through early testing and evaluation. WSARA instituted Directors for Test and Evaluation, Cost Assessment and Program Evaluation, and Systems Engineering to produce policies, provide guidance, and monitor the activities in their respective areas (Weapons Systems Acquisition Reform Act, 2009). The law further required the Director of Defense Research and Engineering (DDR&E) periodically assess the technological maturity of Major Defense Acquisition Programs (MDAP) and annually report those findings to Congress, placed an emphasis on producing prototypes of MDAPs whenever practical, and shifted the trend of giving control of system design away from contractors by requiring that combatant commanders exert more influence in the requirements generation process (Weapons Systems Acquisition Reform Act, 2009). The law also tightened restrictions related to conflicts of interest by Industry contractors and mandated increased competition for the purpose of

reducing acquisition costs (Weapons Systems Acquisition Reform Act, 2009). Subsequently, the DOD Instruction 5000.2, which directs the process for acquiring systems, was updated to outline a mandatory requirement for exercising competitive prototyping for major weapons systems, ensure systems engineering and technical reviews are performed, and require all programs to undergo a Material Development Decision (MDD) process, which validated that concrete requirements are in place prior to obtaining approval authority to commence the system acquisition (Schwartz, 2014).

3. Acquisition Reform from 2010 to the Present

In 2010, Better Buying Power (BBP) initiative 1.0 was released with the primary theme being to “restore affordability and productivity in defense spending,” an attempt to improve the way the DOD conducts business to gain more efficient outcomes (Carter, 2010, p. 1). The objectives set forth in the memorandum were to “deliver the warfighting capability we need for the dollars we have, get better buying power for [the] warfighter and taxpayer, restore affordability to defense goods and services, improve defense industry productivity, remove government impediments to leanness, avoid program turbulence, and maintain a vibrant and financially healthy defense industry” (Carter, 2010, p. 4). One of the tools the initiative introduced was providing incentives to industry in the form of awarding the right type of contract for the work being performed (Carter, 2010). The reform promotes the workforce to “phase out award-fee contracts and favor fixed-price or cost-type incentive contracts in which Government and industry share equally in overruns and underruns” (Carter, 2010, p. 5). Additional incentives included an effort to “align the opportunity to earn profit/fee to both value to the taxpayer and the risk to the contractor” (Carter, 2010, p. 5). The initiative further advocates “rewarding excellent suppliers” and “involving dynamic small businesses in defense” contracting (Carter, 2010, p. 5). To improve Government practices, the initiative advocated using “historically informed independent cost estimation (‘will-cost’ estimates) to inform managing of programs to cost objectives (‘should-cost’ estimates),” improving the quality and consistency of Government audits, eliminating redundancy in procuring multiple systems fulfilling similar objectives, and stabilizing production rates (Carter, 2010, p. 6).

In November 2012, Better Buying Power 2.0 was released with the intent of “continuing the pursuit for greater efficiency and productivity in defense spending” (Kendall, 2012, p. 1). Better Buying Power 2.0 promised to “institute a system to measure the cost performance of programs and institutions and to assess the effectiveness of acquisition policies [by the Department becoming] more data-driven in assessing its own and industry’s performance at achieving improved productivity” (Kendall, 2012, p. 2). The memorandum asserted that the Department would develop metrics to better assess the performance of the acquisition process. The initiative further emphasized the importance of building stronger relationships with the requirements development community, embarking on early planning and enforcement of open system architectures, and effectively managing technical data rights all geared toward achieving the goal of cost control (Kendall, 2012).

In March 2015, Better Buying Power 3.0 was released building upon the incremental approach of the previous Better Buying Power initiatives with a “shift in emphasis toward achieving dominant capabilities through innovation and technical excellence” (Kendall, 2015a, p. 1). The initiative promotes streamlining documentation requirements and staff reviews which detract from program execution and consume resources, such as time and money (Kendall, 2015a). It further encourages the fostering of relationships among the acquisitions, requirements, and intelligence communities in an effort to ensure their programs will build dominant capabilities (Kendall, 2015a). This iteration of Better Buying Power illuminates the need for the acquisition community to be forward thinking and adaptable in the planning of our systems currently in development with the intent to anticipate the enemy’s response to these systems and plan accordingly (Kendall, 2014a). This need arises as the nation’s “adversaries are modernizing at a significant rate, and they are responding rapidly to our development programs and fielded systems” (Kendall, 2014b, p. 4).

The three Better Buying Power initiatives focus on an incremental approach to acquisition reform within the DOD and are a result of budgetary constraints from Congress on the Department, which were further escalated through sequestration. Also in March 2015, the House Defense Committee Chair, Representative Mac Thornberry (R-

TX), proposed a new round of acquisition reforms for the DOD that takes the same incremental, long-view approach of the three BBP initiatives and builds upon those reforms. The reforms aim to reduce the administrative and reporting burdens and increase the effectiveness of the DOD managers to make decisions (Bennett, 2015).

4. Synopsis of the History of Acquisition Reform

In each of the various acquisition reforms that have been initiated within the DOD, the DOD has sought the best way to procure cutting edge technologies without the schedule slippage, cost growth, and technical performance issues that are customarily associated with these types of procurements. These acquisition reforms include the DOD-initiated reforms, such as the Better Buying Power initiatives, or reforms directed through Congressional action, such as DAWIA and SARA. In spite of the numerous attempts to overhaul the DOD acquisition process, systemic issues persist within the acquisition process. Reform remains a necessity as Congress has routinely approved approximately \$400B for defense spending to procure technologies to support the country's defense; however, economic contractions have caused the push for reform to resurface with new momentum in an effort to utilize funds more efficiently than they have been in the past. Reform is necessary to ensure quality technologies are available to the DOD expeditiously, and at a fair and reasonable price.

B. PROBLEM STATEMENT

The problem facing the acquisition community is that the acquisition process has been reformed multiple times over the past decades and the process is still in need of reform as the initial goal of fashioning a process that procures cutting edge technology at a fair and reasonable price, in a timely manner, and with the desired quality and functionality has not yet been attained.

After innumerable attempts to restructure and reform the acquisition process, procurements of major systems and emerging technologies continue to extend far past their planned procurement date, far exceed the original costs allocated for the project, and continue to have operational problems that cost more money and time to rectify (GAO,

2015). At the same time, accountability is necessary to ensure money is allocated properly, systems are delivered timely, and the proper precautions are taken to ensure systems are built to clearly defined and achievable specifications for optimal functionality and interoperability in the field. Acquisition reform over the past twenty-five years has not succeeded in delivering the efficiency, cost savings, and accountability required to bring in DOD acquisitions in on schedule, within budget, and with the desired quality as evidenced by the fact that the GAO continues to name acquisition reform for major weapons systems on its list of high risk issues for past two and a half decades.

Acquisition reform must consider the balance between efficiency in acquisition and the necessary visibility and tracking of the process to verify that the goal of efficient acquisition is being or has been met. Instead of increasing the speed of the acquisition process, the increased use of technology to perform oversight may increase the burden on the lower-level workforce. A balance is necessary to allow technology to benefit the workforce in performing their jobs while increasing the ability of higher-level headquarters to have program visibility through current reporting of accurate information.

The DOD workforce appears to be affected by multiple reforms resulting in increased reporting requirements, increased use of automated reporting systems, increased certification and training requirements, changing demographics, including an aging workforce, reductions-in-force (RIF), hiring freezes, etc. It is imperative to determine if the workforce is adequately considered during the drafting of acquisition reforms, and if any increased stressors on the workforce negatively impact their ability to effectively and efficiently implement meaningful acquisition reform.

The objective of this research is to address the problem of ineffective reform of the DOD acquisition process over the past twenty-five year period from 1990 to current, focusing on prior reforms and the impacts to the DOD workforce, the various reporting requirements, and the resultant automated reporting tools. This will allow us to determine what reforms have proven more successful in producing the intended outcome and what reforms have not been as effective in changing the acquisition process to accomplish the initial goal. Upon determining these gaps in the reform process and the reasons for

previous reform's successes and failures, the result of this research will be to propose a path forward for the DOD acquisition reform through additional workforce improvements and relooking the reporting requirements of past reforms.

1. Thesis Statement

A coherent and effective approach to reforming the DOD acquisition process through workforce and reporting improvements is needed based upon an analysis of previous and recent acquisition reform during an age of technological advancements and workforce changes.

C. RESEARCH OBJECTIVES

The primary objective of this research is to examine the various acquisition reform initiatives related to acquisition workforce improvements and reporting requirements that are recent and relevant to determine what reforms have proven successful in producing the intended outcome and what reforms have not been effective in changing the acquisition process to accomplish the initial goal. Upon determining the gaps in the reform process and the reasons for previous reform successes and failures, the result of this research will be to propose a path forward for DOD acquisition reform through a coherent approach of additional DOD workforce improvements and revised automated reporting requirements.

The secondary objective of this research will be to analyze the impact of the reforms on the acquisition workforce as an indicator of the success and failure of reaching the intended results for the proposed acquisition reform initiatives that seem to have failed and investigate whether additional, potentially unintended consequences resulting from the reforms have contributed to impeding real acquisition reforms.

D. RESEARCH QUESTIONS

The following research questions are posed in this thesis research to allow our analysis to develop a proposed path towards comprehensive acquisition reform utilizing workforce improvements and automated reporting tools to fill the gap left by previous acquisition reform efforts. These questions support the research objectives outlined in the

previous paragraph. Conclusions based on the answers to these questions will be utilized in proposing a path forward for future reform.

(i) Primary Research Question

Primary Research Question 1: What acquisition workforce reform initiatives have proven successful in reducing cost, schedule, and improving system quality control and why?

(ii) Secondary Research Question

Secondary Research Question: What measures have been put in place to determine success or failure regarding the impact of the reform initiatives on the acquisition process?

E. PURPOSE OF RESEARCH

The purpose of this research is to examine a problem that has persisted in Government acquisition and to find a solution to reform the DOD acquisition process that will produce positive results in condensing timelines to award, bringing procurements through development, production, and delivery within schedule and on budget, and acquiring quality systems that meet the needs of the warfighter. The concern of several Presidents and Congressional bodies has been the genesis of countless studies, proposals, and resultant legislation attempting to overhaul the DOD acquisition process to achieve efficient purchasing ability on behalf of the Government. The DOD's inability to acquire systems at a fair and reasonable price in a reasonable time allotted by the initial contract has been an item on the high risk list of issues for the GAO for the past twenty-five years. Finding a practical solution to this problem is a high priority for the nation's leaders and taxpayers, who entrust the Government to effectively steward their tax money.

F. SCOPE/METHODOLOGY

This project will conduct a scholarly review of the DOD acquisition reform over the previous twenty-five years, focusing on acquisition workforce reform initiatives contained within those reforms, in an effort to examine which policies have accomplished their objectives and which have not. The review will also consider changes in the

acquisition environment which might have influenced the effectiveness of the implemented reforms. An analysis will be conducted of the various initiatives to determine which have proven successful and which have not. Resources for conducting this research will include the DOD reform policy documents, GAO reports, scholarly publications, local DOD Contracting Office pilot studies and reports, and various online sources.

G. REPORT ORGANIZATION

This report contains four chapters. Chapter I, Introduction and Background, provides the reader with the thesis and a description of the problem, along with an understanding of why the thesis is important, what will be investigated, and how the research will be conducted. General information will be provided as background information for the reader to provide a basic understanding of the importance of proper and effective DOD acquisition reform through workforce improvements. The information provides the reader with a basic understanding of the subject matter of the thesis.

Chapter II provides the reader with the research data gathered to investigate the thesis. This information will provide further information for the authors to use as part of the analysis. It will provide the research results for the DOD acquisition process as a whole, investigating existing DOD acquisition reform initiatives over the past twenty-five years, with a focus on workforce improvements and reporting requirements, detailing workforce changes in the DOD over the past twenty-five years, and describing incorporation of automated systems for reporting in the DOD over the past twenty-five years.

Chapter III provides an analysis of the information provided in Chapter II. Chapter IV provides the conclusions and recommendations for future DOD acquisition reform related to workforce improvements, reporting requirements and the resultant increased use of automated reporting systems.

H. SUMMARY

Within this chapter, a basic understanding of the scope of the DOD acquisition reform during the past twenty-five years has been provided. A problem statement and resulting research questions have been identified. The methodology of the research has been documented. A thesis statement has been delivered. The following chapter will provide the data necessary to conduct an analysis and provide conclusions and recommendations.

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II. RESEARCH

The previous chapter provided the reader with an overview of the DOD acquisition reform initiatives as a basis to present the current state of acquisition processes. Chapter II will provide the reader with information from research conducted by the authors on various topics related to acquisition reform and the effect of those reforms on reporting requirements and workforce improvements undertaken in the previous twenty-five year period. This research information will provide a basis for the analysis of these facts in determining a path forward for DOD acquisition reform.

A. COMPLEXITY OF THE DOD ACQUISITION PROCESS

The complexity and rigidity of the DOD acquisition process is responsible for discouraging various businesses, both small and large, from participating in DOD acquisitions. This is a major problem when seeking innovative solutions for DOD requirements, especially as the Department seeks solutions for more complex and changing adversaries (*Challenges to Doing Business with the Department of Defense*, 2012). This section will provide a discussion of the complexity of the DOD acquisition process and describe the rules governing the DOD acquisition process, including the *Federal Acquisition Regulation* (FAR) and its supplements, as well as the DOD Instruction (DoDI) 5000.02.

Figure 1 is a complex roadmap of the requirements placed on the DOD Program Managers (PMs) as a program flows through the acquisition life cycle from inception to sustainment. Mr. Frank Kendall, the Under Secretary of Defense for Acquisition, Technology, and Logistics (USD AT&L), stated that the increased regulations since the mid-1980s “places an extraordinary and unnecessarily complex burden on program managers and staffs” (Garamone, 2013, p. 1). As is visible in Figure 1, the complexity of both the number of moving parts and the required interactions with multiple fields of expertise within the acquisition career field make the management of DOD programs complex and cumbersome.

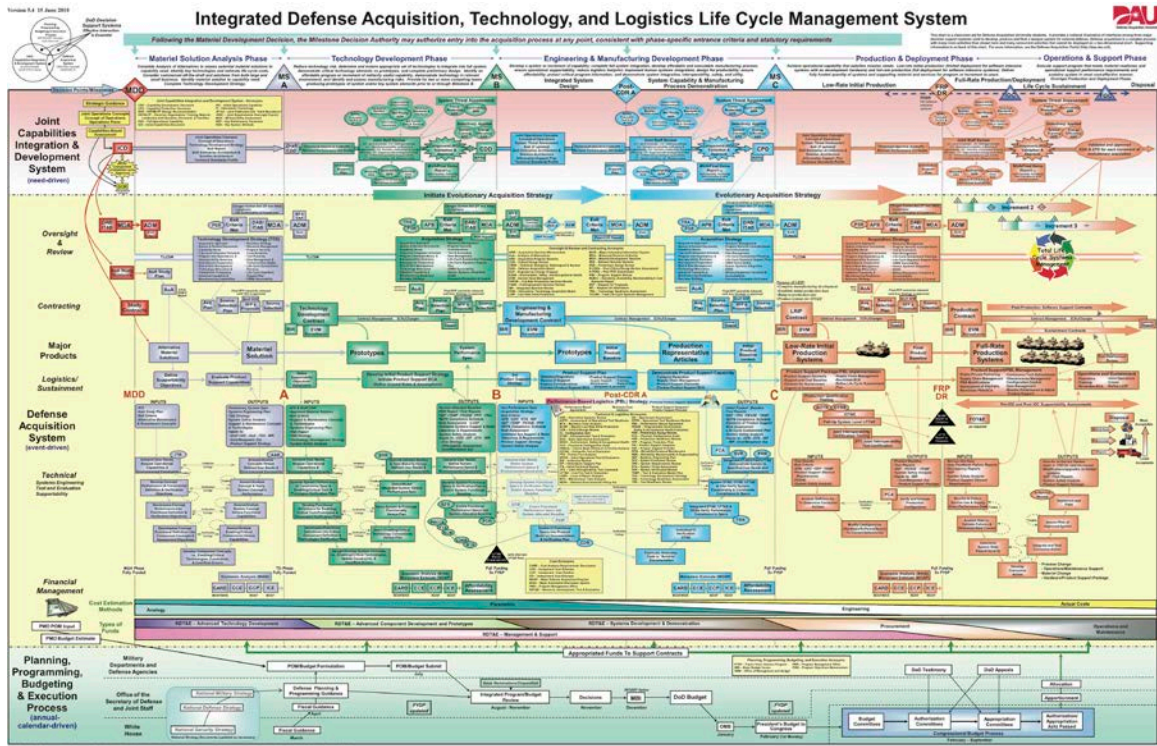


Figure 1. Phases of the DOD Acquisition Life Cycle. Source: Defense Acquisition University.

Because of the cumbersome nature of the acquisition process, the House Panel on Armed Services concluded in its research on the DOD acquisition process that there are a “number of hurdles [that] make it challenging for companies to compete for defense contracts. The acquisition process is often bureaucratic and rigid, with insufficient flexibility” (*Challenges to Doing Business with the Department of Defense*, 2012, p. vii).

1. Rules Governing the DOD Acquisition Process

The same House Panel on Armed Services report “found that constantly changing regulations leads to unnecessary complexity, confusion, and poor execution, only furthering challenges for the acquisition workforce” (*Challenges to Doing Business with the Department of Defense*, 2012, p. vi). These regulations governing the DOD acquisition process fall under two categories, the FAR and its agency-specific supplements, and the DoDI 5000.02 guidelines for PMs.

a. *Federal Acquisition Regulation and Supplements*

The FAR came into existence in 1984 and is the set of regulations that guide the acquisition of supplies and services by federal agencies in the Executive Branch of the government that are using appropriated funds from Congress. The intent of the FAR is to reduce and eliminate redundancy within Agency-specific acquisition regulations and to provide consistency within the Federal acquisition system (Federal Acquisition Regulation, 2015).

The FAR consists of fifty-three parts and over 32,000 pages of acquisition regulations, provisions, and clauses. The fifty-three parts are contained within eight subchapters are detailed in Table 1.

Table 1. FAR Subchapters and Parts. Adapted from Barne (2015).

Subchapter and Title	Parts
A: General	Parts 1–4
B: Competition and Acquisition Planning	Parts 5–12
C: Contracting Methods and Contracting Types	Parts 13–18
D: Socioeconomic Programs	Parts 19–26
E: General Contracting Requirements	Parts 27–33
F: Special Categories of Contracting	Parts 34–41
G: Contract Management	Parts 43–51
H: Clauses and Forms	Parts 52–53

The United States Small Business Administration (SBA) website refers to the FAR as “a substantial and complex set of rules governing the federal government’s purchasing process” in their description of the regulations to potential small businesses interested in competing for government requirements.

Acquisition professionals within the DOD must adhere to the regulations contained within the FAR. Additionally, the Defense Federal Acquisition Regulation Supplement (DFARS) is a more restrictive set of guidelines that the DOD acquisition professionals must adhere to. Each Service within the DOD has their own Service-specific supplement that is more restrictive than the DFARS. For instance, the Army has the Army Federal Acquisition Regulation Supplement (AFARS) (Schwartz, 2014).

Additional command-specific regulations are included above and beyond the FAR and its supplements. For example, the U.S. Army Contracting Command (ACC) provides Contracting Officers with an ACC Deskbook providing additional guidance and regulations above and beyond the FAR and its supplements that Contracting Officers must consider during the contracting piece of the acquisition process. ACC Contracting Centers, such as the ACC Aberdeen Proving Ground (APG), have additional Deskbook regulations that must be followed by Contracting Officers.

A division-level Contracting Officer in the Army is responsible to adhere to regulations contained in the FAR, DFARS, AFARS, ACC Deskbook, and ACC-APG Deskbook during the performance of their duties. Contracting Officers are also responsible to digest, interpret, and advise program offices on the regulations contained within the FAR, its supplements, and the Command Deskbook guidance. Division-level Contracting Officers in ACC are responsible for being knowledgeable in the contents of five sets of regulations.

b. DoDI 5000.02 Guidelines for Program Managers

The original DoDI 5000.1 was issued in 1971 by then-Deputy Secretary of Defense Packard (Cochrane, 2009). It was an eight page document that required three major decision points and only required one supporting document. The DoDI 5000.02 is the fifteenth revision to the acquisition process in thirty-four years. Over the history of the DOD 5000 acquisition guidelines, the number of pages has ranged from eight in 1971 to 840 in 1991. More recently, in 2008, it contained a directive and instruction that totaled ninety pages (Cochrane, 2009). The current 2015 DoDI 5000.02 version is an instruction totaling 154 pages (Department of Defense, 2015). DoDI 5000.02 incorporated reforms aimed at decreasing cost and schedule slippage. For instance, the first cost estimate required to be submitted was in support of Milestone B. As part of DoDI 5000.02, a cost estimate is required for the proposed solution during Milestone A as part of the Analysis of Alternatives (AoA) (Fast, 2010).

The DoDI 5000.2 is referred to as focusing on the “little a” in the Defense acquisition process (Schwartz, 2014). It includes the Pre-Systems Acquisition, Systems

Acquisition, and Sustainment. As part of those three phases, there are three program milestone decision points that drive the program office in determining whether or not to proceed with the development of a requirement. Figure 2 is an overview of the defense acquisition milestones as part of the acquisition process (Schwartz, 2014).

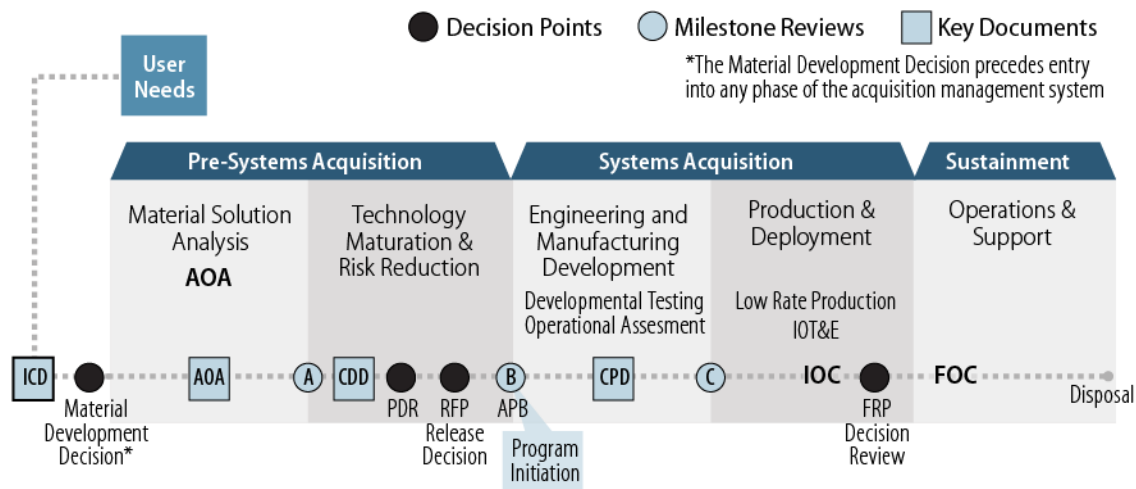


Figure 2. Defense Acquisition Milestones. Source: Schwartz (2014)

The three acquisition milestone decision points act as safeguards for the program to ensure that all statutory and regulatory requirements have been met prior to proceeding to the next phase of the acquisition process (Schwartz, 2014). Approval to proceed beyond Milestone A leads into the Technology Maturation and Risk Reduction phase of the acquisition process. Once this phase is complete, approval is required at the Milestone B phase of the acquisition process. If approval is granted, the program proceeds to Engineering and Manufacturing Development, where Developmental Testing and Operational Testing are conducted. After this phase, Milestone C is the last of the three Milestones requiring approval. If Milestone C is approved, the program is authorized to enter into Production, Deployment, and Sustainment (Schwartz, 2014).

Sources indicate that the DoDI 5000.02 “establishes a simplified and flexible management framework for translating mission needs and technological opportunities into stable, affordable, and well managed acquisition programs,” which appears to be the

case in the simplified process outlined in Figure 2 above (Brown, 2010, p. 17). However, the complexity and documentation requirements for each phase and milestone decision point can be seen in Figure 1.

For instance, a review of the Defense Acquisition University (DAU) Defense Acquisition Portal (DAP) tool indicates that for an Acquisition Category I Component (ACAT IC) or ACAT I Defense (ID) program, which is considered a MDAP, thirty-one statutory documents are required to be completed in support of the milestone acquisition decision points, including major decision points and major supporting documentation required before reaching the milestone decision point¹ (Milestone Document Identification (MDID), 2015). Of those thirty-one documents required, many are required at least twice and some as many as five times. Overall, eighty-eight statutory documents are required to be completed to facilitate a program from user need to Milestone C and cannot be waived unless allowed by the statute. Additionally, thirty-six regulatory documents are required to be completed. Of those thirty-six reports, most are required at multiple DoDI 5000.02 life-cycle events, with some required as many as six different times in the process. Overall, 116 regulatory documents are required to be completed to facilitate a program from user need to Milestone C. Regulatory document requirements can be waived based upon sound business judgment of the risks of the program. It is unknown the frequency that these documents are waived. A total of 204 documents supporting the DoDI 5000.02 acquisition process may be required for an ACAT IC or ID program. For comparison, an ACAT III or lower program requires fifteen statutory documents submitted a total of 41 times and 34 regulatory documents submitted a total of 112 times throughout the DoDI 5000.02 acquisition process. This equates to 153 documents required to support a much less complex acquisition compared to an ACAT IC or ID program. The ACAT III or lower program requires only fifty-one less document submissions than a more complex ACAT I program would (Milestone Document Identification (MDID), 2015). While the intent of the DoDI 5000.02 is to provide a

¹ These include Material Development Decision; Milestone A Decision Review; Capability Development Document Validation; the Development Request for Proposals Release; Milestone B Decision Review; Milestone C Decision Review; and Full Rate Production/Full Deployment Decision.

simplified framework for DOD acquisitions, there is a large amount of redundant documentation required to support the DoDI 5000.02 acquisition process.

With the release of the updated DoDI 5000.02 acquisition procedures, the framework remained the same; however, “two new decision points” were added, a “requirements decision point and a development request for proposal decision point” (Garamone, 2013, p. 1). The new procedures add additional decision points to the process for acquisition professionals to support.

DoDI 5000.02 incorporated reforms aimed at decreasing cost and schedule slippage, such as the above example where the first cost estimate was previously required to be submitted in support of Milestone B. As part of DoDI 5000.02, a cost estimate is now required for the proposed solution during Milestone A as part of the AoA.

2. Recent Example of Successful Major Weapons Systems Acquisitions

The standard that acquisition programs are judged on is coming in at or below cost and schedule parameters of the program. The WSARA of 2009, which will be investigated further in this report, was enacted by Congress to address major programs that exceed cost and schedule for the programs. Reforms in the DoDI 5000.02, which was recently enacted, are also aimed at addressing cost and schedule slippage in DOD acquisition programs (Fast, 2010). This is due to the fact that success for a Defense program office is based upon fielding “a system that is delivered on time, within cost, and meeting the warfighter’s requirements” (Brown, 2010, p. 14). Following is an overview of the acquisition of the Mine Resistant Ambush Protected (MRAP) during war-time to meet urgent requirements, which is viewed as a successful recent DOD acquisition.

a. Mine Resistant Ambush Protected (MRAP) Vehicle

The MRAP is a family of troop carrier in different variations based upon commercial prototypes with a V-shaped hull that is effective at deflecting blasts from Improvised Explosive Devices (IED) that were causing major casualties during the Iraqi and Afghanistan conflicts. It is often referred to as an example of a successful defense acquisition to meet a warfighter requirement. Approximately 21,000 MRAPs were

manufactured and delivered between 2005 and 2009 utilizing a rapid acquisition approach. The need arose as a result of the inadequacy of the High Mobility Multipurpose Wheeled Vehicle (HMMWV) in providing blast protection to the warfighter, which failed to protect troops against IEDs (ARCIC Requirements Integration Directorate, 2013). Ramp-up of production increased from eighty-two vehicles delivered in June 2007 to 1,300 delivered in December 2007, which is an impressive increase in only six months (Miller, 2010). The MRAP acquisition program is typically used as a case study of potential acquisition reforms to increase speed and accuracy of requirements while coming in on schedule. It demonstrates what is possible with the “DOD use of a tailored acquisition approach to rapidly acquire and field” (GAO, 2009, p. 2). The success of the MRAP on the battlefield has been difficult to quantify. However, reports of a 30 percent decrease in casualties from 2000 to 2010 has been attributed to the MRAP, while the Pentagon’s MRAP program office estimates that 10,000 lives have been saved in Iraq and 30,000 in Afghanistan for a combined 40,000 lives saved as a result of the MRAP vehicle (Rogers, 2012).

Mr. Michael J. Sullivan is the Director of Acquisition and Sourcing Management at the GAO. He provided testimony before the House Armed Services Committee Defense Acquisition Reform Panel in 2009. The purpose of his testimony was to advise on potential lessons learned from the MRAP acquisition that could be used in other defense acquisitions to improve and streamline the acquisition process. Overall, Mr. Sullivan indicated he believed that the MRAP program should be considered a success. The program’s success was due to the following 6 factors:

- 1) then-Secretary of Defense Robert Gates’ quick decision to provide a DX-rating to the MRAP program, which prioritized the manufacturing of the MRAP vehicles over all other contracts that the manufacturer may be producing;
- 2) availability of supplemental funding from Congress to pay for the requirement;
- 3) market research that showed proven, commercial capabilities were available and the decision to solicit for previously developed vehicles;

- 4) “minimal operational requirements” of what was necessary to meet the user’s need;
- 5) utilization of competition within contracting to drive innovation and pricing; and
- 6) final integration of communication and military-specific equipment was made the responsibility of the government and not the contractor (GAO, 2009, p. 2).

Immediately, Mr. Sullivan dismisses the first two factors as unreasonable to be transferred to other acquisitions because of the unlikelihood of it occurring. A DX-rating is not common and supplemental funding from Congress cannot be counted upon to allow for the stable funding of the requirements. However, he did indicate similarities between the remaining four factors that have been consistently reported by GAO as acquisition best practices. This includes the use of mature technologies, minimal and “well-understood” requirements, use of competition to incentivize contractors, and increased defense support of integration (GAO, 2009, p. 2).

Mr. Sullivan’s beliefs are similar to other contemporary thought on the MRAP success that can be utilized in other acquisition reforms. The importance of the “minimal operational requirements” is similar to the 80 percent solution, which requires a tradeoff of risk of not getting everything the user community needs, often referred to as requirements creep. This tradeoff can lead to a faster schedule and an increased likelihood for success. It also requires flexibility in finding the additional twenty percent after production as improvements are identified (Garcia, 2009). There was a need for post-production and fielding fixes due to issues with the MRAPs’ reliability, mobility, and safety. However, by remaining flexible, the program office was able to quickly address the issues (GAO, 2009). The tradeoff for speed was reduced testing before fielding, which led to these issues, however, the risk was known when the program’s schedule was developed.

Mr. Sullivan’s comments about final integration being the responsibility of the government has garnered traction as well. By the government being responsible for the final integration, it relieved the contractors of additional requirements and let them focus

on the sourcing of materials and production of the vehicles instead of the integration of the military-specific equipment on the vehicles (Garcia, 2009).

A final area that Mr. Sullivan did not discuss, but may have had a positive impact on decreasing the MRAP's schedule is the amount of documentation required to support an acquisition. As part of the MRAP program, then-Secretary of Defense Gates authorized the development of the Joint Rapid Acquisition Cell (JRAC), which was instituted to speed up the review and approval process. This helped "to streamline processes and reduce cycle time, which will lead to improved response time, lower costs, and more rapid fielding of critical technologies" (Garcia, 2009, p. 1). Secretary Gates established an MRAP Task Force with the mission of getting "as many MRAPs as possible and prudent" fielded within the year. Mr. Gates did this because he wanted to "bypass the normal Pentagon acquisition bureaucracy, which Gates viewed as too slow to react to urgent war requirements" (Miller, 2010, p. 18). It is unlikely that this approach could be utilized on most acquisitions since it is the "Pentagon acquisition bureaucracy" that is limiting the speed and response time that Gates' was trying to circumvent, which is impossible to remove without significant acquisition reforms (Miller, 2010, p. 18).

B. DOD ACQUISITION REFORM DURING THE PREVIOUS TWENTY-FIVE YEARS

The push for acquisition reform in the 1990s was guided by the philosophy put forth by the Packard Commission Report issued in 1986, which sought to shape the procurement process to be more "responsive, effective, and efficient" (Hanks et al. 2005, p. xiv). Comprehensive acquisition reform for major weapons systems in the DOD, such as those enabling the rapid acquisition of the MRAP, has been attempted over the past twenty-five years to get the right balance of affordable cost, expeditious delivery, and quality technology that meet the user needs.

1. Defense Acquisition Workforce Improvement Act (DAWIA)

In the 1980s, a series of scandals arose exposing multiple incidents within the acquisition community of exorbitant amounts of money being paid for commonplace spare parts. These scandals gained high profile status and gave rise to intense pressures

on the Executive and Legislative branches of the government to review the acquisition process and enact reform to prevent future incidents of government waste. The reviews concluded that the defense acquisition community was too large, unqualified, and ineffectual to perform its function. Specifically, the President's Packard Commission Report recommended the institution of the DAWIA of 1990 which attempted to correct these issues by implementing regulations requiring the DOD to train the workforce to standards, track the size of the acquisition workforce, and institute the Acquisition Corps.

These standards were issued in DOD Manual 5000.52-M, *Career Development Program for Acquisition Personnel*—a companion document to the DOD Directive 5000.52 that implemented the [DOD's] training and education program published in 1991. The manual and its implementing directive were to be the sole regulatory authority for mandatory DOD acquisition training. While certification in at least one career field was required, individuals could be certified in other fields as well. The 5000.52M specified the education, training, and experience standards for each career field, expanded the number of career fields prescribed in DAWIA, and grouped them into seven functional areas. This integrated all the elements of a previously fragmented, scattered, and diffused training system. (Layton, 2007, p. 18).

Following the passage of the DAWIA, additional policies were issued in the form of DoDIs 5000.55 and 5000.66, which specified the “workforce reporting requirements,” established twelve career fields within the acquisition workforce to be tracked and trained, and provided instructions for the “selection, placement, and career development” of acquisition professionals within the defined career fields (Birkler, Arena, Blickstein, Drezner, Gates, Huang, Murphy, Nemfakos, and Woodward, 2010, p.116). To facilitate the requirements detailed in DoDI 5000.55, procedures were put in place to facilitate reporting and tracking data. Specifically, training reports in formats as specified in the instructions were to be submitted on “IBM 3480 compatible tape cartridges,” “magnetic tapes,” or “diskettes” that were “MS-DOS compatible” (Department of Defense, 1991, p.27). Reports compiled were to detail the name and identification number of each professional, their specific acquisition career field and level of certification; training courses taken and scheduled with the training completion dates; branch of service and organization; grade and length of employment, Acquisition Corps and/or Contracting Officer qualifications, and warrant type and limit, if applicable (Department of Defense,

1991). These reports were to be submitted from the individual agencies up to the Director, Acquisition Education, Training, and Career Development in the Office of the Under Secretary of Defense (Acquisition) (OUSD(A)), who then was required to compile an annual report on the certification and training status of the acquisition workforce (Department of Defense, 1991). For classified programs or agencies, an annual certification of compliance with the instruction was submitted (Department of Defense, 1991).

As a result of these new requirements, management in the OUSD(A) were given the additional responsibility of ensuring the individual agencies followed the directive for submission of the tracking data; that the Directors of Acquisition Career Management (DACM) documented “all personnel and position qualifications;” that the “Chairs of the Acquisition Career Program Board” of the individual agencies documented all personnel qualification actions, and that the president of the DAU provided the necessary acquisition training courses and course graduation reports quarterly (Department of Defense, 1991, p. 5). New positions were instituted for the “Director, Acquisition Education, Training, and Career Development to monitor and report the [training] status of the acquisition workforce” and the Defense Manpower Data Center (DMDC) was charged to “serve as custodian of all automated records collected under [the] instruction and provide data quality control, inquiry capabilities, and administrative and computer support” (Department of Defense, 1991, p. 5). DoDI 5000.66 was issued to provide guidance on manpower management and charged the USD(AT&L) with managing the acquisition workforce, recommending funding levels to provide for the workforce, overseeing the AT&L Workforce Senior Steering Board (SSB), designating a Functional Advisor for each career field, and appointing a Component Acquisition Executive (CAE) to designate Key Leadership Positions (KLP) in the workforce (Department of Defense, 2005). The individual CAEs with approval of their agency heads were to designate AT&L positions, specify Critical Acquisition Positions (CAP), submit approval for the KLPs at the USD(AT&L) level, approve applications of KLPs to the Acquisition Corps, and ensure their personnel receive training (Department of Defense, 2005). As a consequence of these initiatives, every member of the acquisition workforce was

impacted with additional workload to comply with the requirements and then to report and/or track the compliance with the requirements. In order to execute the directives, course curriculums were commissioned to be developed to certify the various career tracks within the acquisition workforce. In order to develop these curriculums, members of these fields from each of the DOD services chosen from a circle of qualified schools had to participate in providing their expertise to produce a line of courses that could present the fundamentals of their competency. The curriculums were entrusted to the DAU to educate the workforce which became operational in 1992.

2. Government Performance Results Act (GPRA)

Following implementation of DAWIA, Congress enacted the Government Performance Results Act (GPRA) of 1993. Within the legislation, Congress reveals findings from its reviews that “federal managers” were “seriously disadvantaged in their efforts to improve program efficiency and effectiveness” due to “insufficient articulation of program goals and inadequate information on program performance” (Government Performance and Results Act, 1993, p.1). The findings further stated that “congressional policymaking, spending decisions, and program oversight were seriously handicapped by” insufficient attention to program “performance and results” (Government Performance and Results Act, 1993). To rectify these issues, “Congress established statutory requirements” within the GPRA for the DOD agencies “to set [agency] goals, measure performance,” and engage Congress in the process through submission of program plans outlining these goals and performance parameters as well as annual reports on program status related to the attainment of the planned goals and performance parameters (Brass, 2012, p.2). Specifically, agencies were to develop and furnish to Congress three main deliverables: a five-year strategic plan detailing the mission statement and measurable long-term agency goals; an annual performance plan documenting the performance goals for the respective fiscal year with specifics on how the goals would be met and verified; and annual performance reports documenting the agency’s accomplishments in terms of meeting the performance goals as planned (Brass, 2012). The reporting requirements were intended to provide insight to and assist Congress in the process of policy formulation, conducting oversight, and budget planning

and authorization (Brass, 2012). Performance.gov documents that updates to the GPRA were later implemented through the GPRA Modernization Act of 2010 directing changes to existing requirements in an attempt to help “agencies to focus on their highest priorities and creating a culture where data and empirical evidence plays a greater role in policy, budget, and management decisions.” One of the changes implemented by the Modernization Act according to performance.gov was to “modernize and refine the requirements established by GPRA in order to produce more frequent, relevant data which can then inform decision makers and agency operations.” Performance.gov documents that the act also included legislation to “codify and strengthen existing resources for performance management, including the Chief Operating Officer (COO), Performance Improvement Officers (PIOs) within the federal agencies, and the interagency Performance Improvement Council (PIC)” as well as to “apply the latest technologies and lessons learned from nearly two decades of GPRA implementation.”

3. Federal Acquisition Streamlining Act (FASA)

The next wave of reform came in the form of the Federal Acquisition Streamlining Act (FASA) of 1994 signed into law by President Clinton. At the time, the acquisition process was thought to be too complicated and prior to the enactment of the law, then-Secretary of Defense William Perry wrote and disseminated a paper entitled “Acquisition Reform: A Mandate for Change” which provided several examples of issues facing the acquisition community, specifically related to the purchase of commercial items. The paper detailed instances where the current regulations restricted the government’s ability to procure state of the art technology from commercial vendors or to obtain the most cost effective commercial items on the market due to requirements for detailed cost and pricing data. The majority of commercial vendors did not keep the kind of in-depth cost and pricing data required for government procurements which resulted in substantially increased costs to the vendor to generate the required information on small dollar commercial items. These costs were either passed on to the government or, in some of the cases documented in the paper, the vendors refused to supply the item preferring to protect their relationships with subcontractors instead of passing on the burdensome requirement. The paper further explained that the low threshold for simplified

acquisitions ended up costing the government more time and money to procure standard, low cost, commercial items. Additionally, commercial divisions of major defense contractors harbored concerns about complying with the cost and pricing requirements for fear of losing their proprietary data and software or relinquishing rights to their proprietary pricing information and inviting unwelcomed financial audits by the federal government (Perry, 1994). FASA attempted to address these issues by raising the Simplified Acquisition Threshold from \$25,000 to \$100,000, allowing the simplified acquisition process to be utilized on commercial purchases up to the redefined threshold (Perry, 1994). The act also enabled the Federal government to buy commercial items as offered on the market, no longer requiring the furnishing of detailed cost and pricing information (Perry, 1994). In addition, the act set commercial items and Non-Developmental Items (NDI) as the preferred method of acquiring goods for the government and defined a commercial item as an item sold on the commercial market for purposes other than government use with an allowance for minor modifications to fit government needs (Perry, 1994). Through the act, a commercial item can be determined fair and reasonable through adequate price competition or, if competition is not feasible, the Contracting Officer can obtain pricing information through market analysis (Perry, 1994).

4. Federal Acquisition Reform Act (FARA)

The Federal Acquisition Reform Act (FARA) of 1996 also known as the Clinger-Cohen Act was designed to improve upon the streamlining provisions of the previously enacted FASA further reducing non-value added procedures. The act raises the dollar thresholds at which various high level agency approvals are required for contracts utilizing other than full and open competition procedures (FARA, 1996). Specifically for procurements under other than full and open competition, the requirement for approval authority by the Special Competition Advocate was increased from a range of 100,000 to 1,000,000 to a range of 500,000 to 10,000,000; by the Head of the Contracting Activity approval authority was increased from a range of 1,000,000 to 10,000,000 to a range of 10,000,000 to 50,000,000; and for approval by the Senior Procurement Executive the threshold was set at 50,000,000 and above (FARA, 1996). One of the major

accomplishments of the act was legislation providing the ability to limit competition or set the competitive range at the number of offerors at which effective competition can be conducted. With this legislation providing the ability to set the competitive range among the most highly rated proposals, the law also set in effect preaward debriefings to provide offerors eliminated from the competitive range the opportunity to receive feedback for better proposal preparation increasing competition under future efforts. In addition, the application of simplified acquisition procedures was expanded to commercial items with a purchase value of \$5,000,000 or less if the “contracting officer reasonably expects... that offers will only include commercial items” (FARA, 1996, p.30). FARA revises provisions under FASA in continuing the prohibition of collecting certified cost and pricing data on commercial items, however, solidifies the requirement for Contracting Officers to obtain other than cost and pricing data in order to document a determination of fair and reasonable pricing (Seitzinger, 1996). The act also removes the burden from vendors of commercial items of having to comply with Cost Accounting Standards (CAS). As prescribed by the FARA, the FAR lists competitive contracting provisions that are not applicable to contracts for commercially available off-the-shelf items. The act further establishes rules surrounding procurement integrity, effectively prohibiting current as well as former federal employees from consciously disclosing source selection sensitive information including proprietary proposal information prior to the resultant contract award (Seitzinger, 1996).

5. Services Acquisition Reform Act (SARA)

The next major step in acquisition reform was the Services Acquisition Reform Act (SARA) of 2003 which was instituted in response to the increase in procurement of services across the federal government. “SARA enacted much needed changes to respond to persistent concerns about the federal procurement workforce—regarding the availability of sufficient and appropriate training resources and the loss of experienced procurement professionals to retirement and to the private sector” (Clerici & Doyle, 2004). This piece of legislation established the Acquisition Workforce Training Fund (AWTF) for the purpose of ensuring Contracting Officers were properly trained in the acquisition of both goods and services (Clerici & Doyle, 2004). The law also established

the Acquisition Advisory Panel, an integrated panel of thirteen government and industry partners, charged with the responsibility of reporting to Congress and the Office of Management and Budget on the acquisition process as well as a civilian acquisition officer in each government agency to conduct oversight of the procurement process (Clerici & Doyle, 2004). Performance based contracting for services were promoted through this law and allowances for use of time and materials or labor hour type contracts were made for the procurement of commercial services. “This provision addresses longstanding questions in government and industry about the use of these contract types to acquire commercial services” (Clerici & Doyle, 2004, p. 40).

6. Weapons Systems Acquisition Reform Act (WSARA)

In 2009, the WSARA was signed into law with its chief aim to reduce excessive cost growth of major weapons systems that had become commonplace. The WSARA attempted to achieve this reform largely by focusing on decisions made early on in the life of the program. At the time the act was signed into law, GAO reports cited that approximately “70 percent of the Pentagon’s 96 largest weapon programs were over budget” (Drew, 2009).

This reform act documented guidance for conducting the AoA study in the early stages of weapons systems planning prior to Milestone A approval to identify the best solution in terms of cost, schedule, and operability (Weapons Systems Acquisition Reform Act, 2009). The law also mandated the consideration of technology maturity standards and the competitive acquisition of prototypes prior to Milestone B approval wherever practicable prior to the acquisition of full scale production of large weapons systems (Weapons Systems Acquisition Reform Act, 2009). As part of this change, a requirement was added for the “the Director of Defense Research and Engineering, in consultation with the Director of Developmental Test and Evaluation” to “periodically review and assess the technological maturity and integration risk of critical technologies of the major defense acquisition programs of the Department of Defense and report on the findings of such reviews and assessments to the Under Secretary of Defense for Acquisition, Technology, and Logistics” who would report to the Secretary of Defense

and ultimately to the Congress (Weapons Systems Acquisition Reform Act, 2009, p. 1). Additionally, the reform provided for early consideration of operation and sustainment requirements necessary to support these large weapons systems throughout the system's life cycle prior to entering into the competitive acquisition of the systems (Weapons Systems Acquisition Reform Act, 2009).

The reform act also encompassed a strong push for maximizing competition through measures such as the "use of modular, open architectures to enable competition for upgrades, the use of build-to-print approaches to enable production through multiple sources, and the acquisition of complete technical data packages" to ensure the ability to compete follow-on contracts (Weapons Systems Acquisition Reform Act, 2009, p. 1). The reform entailed a more rigorous program for systems engineering to be implemented starting with the institution of the Director of Systems Engineering who reported to the Under Secretary of Defense and was responsible for developing and disseminating policies on systems engineering as well as for reviewing, providing approval for, and monitoring the systems engineering plans for each MDAP (Weapons Systems Acquisition Reform Act, 2009).

As a result of the WSARA initiative and its focus on systems engineering, procedures for developmental and operational testing, milestone decision certification processes, and requirements for preliminary design reviews were instituted. A Director of Developmental Test and Evaluation was appointed under the Under Secretary of Defense and charged to work in coordination with the Director of Systems Engineering to "ensure that the developmental test and evaluation activities of the Department of Defense are fully integrated into and consistent with the systems engineering and development planning processes of the Department" (Weapons Systems Acquisition Reform Act, 2009, p. 1).

The reform also cemented requirements for cost analysis early in the design process and appointed the Director of Cost Assessment and Program Evaluation (CAPE) who would report directly to the Secretary of Defense providing independent assessments of matters concerning cost analysis and the planning and programming phases of the Planning, Programming, Budgeting and Execution (PPB&E) system. The Director of

CAPE was put in place to provide expertise and to define the policies and procedures for cost estimation practices for the DOD (Weapons Systems Acquisition Reform Act, 2009). Procedures for performance assessments and root cause analysis were implemented allowing for tradeoffs to be made between cost, schedule, and performance to obtain the best value weapons systems for the government.

Lastly, the WSARA provided for “a strengthening of the ‘Nunn-McCurdy’ process. Nunn-McCurdy provisions require DOD to report to Congress when cost growth on a major program breaches a critical cost growth threshold. Characterized by Senator McCain as ‘a big stick ... to wield against the very worst performing programs,’ the new legislation required a root-cause assessment of failing programs and presumed program termination within sixty days of notification unless DOD certified in writing to the contrary” (Eide & Allen, 2012, p. 8). This was intended to further limit the excessive cost growth being experienced in major weapon system programs in the DOD.

7. Better Buying Power (BBP)

The DOD Better Buying Power website states:

Better Buying Power (BBP) is the implementation of best practices to strengthen the Defense Department’s buying power, improve industry productivity, and provide an affordable, value-added military capability to the Warfighter. Launched in 2010, BBP encompasses a set of fundamental acquisition principles to achieve greater efficiencies through affordability, cost control, elimination of unproductive processes and bureaucracy, and promotion of competition.

The BBP initiatives attempt to “incentivize productivity and innovation in industry and government, and improve tradecraft in the acquisition of services” (DOD Better Buying Power website, 2015,p. 1). The BBP was first introduced through the BBP 1.0 in 2010 as a memorandum entitled “Better Buying Power: Mandate for Restoring Affordability and Productivity in Defense Spending.” As the title infers, the initiative was geared toward obtaining better value in DOD acquisitions on behalf of the taxpayer.

The objectives of BBP 1.0 were to “procure the critical goods and services our forces need” getting the best value for the budgeted taxpayer funds, “restore affordability to defense goods and services, improve defense industry productivity, remove

government impediments to leanness, avoid program turbulence, and maintain a vibrant and financially healthy defense industry” (Carter, 2010, p. 4). The slogan attached to the initiative which embodied its objectives was to “do more without more” or do more with less” (Carter, 2010, p. 4). BBP 1.0 attempted to achieve these objectives through providing incentives to industry through aligning “opportunity to earn profits and fees both to value to the taxpayer and risk to the contractor, thereby, rewarding higher productivity with higher profits” (Carter, 2010, p. 5). This went hand in hand with the initiatives to prefer fixed price and cost plus fixed fee type contracts and minimize the use of award fee contracts when considering vehicles for development and supply requirements. The initiative emphasized the need to maximize competition and to fit the right type of contract to the requirement, avoiding the award of sole source Indefinite Delivery/Indefinite Quantity contracts along with Time and Materials contracts when considering vehicles for the award of services.

The initiative proposed to ensure that taxpayers receive “adequate consideration in the form of price reductions for improved cash flows,” specifically, that “progress payments reflect performance but can be increased above customary levels in return for consideration by the contractor” (Carter, 2010, p. 5). BBP 1.0 also encouraged the acquisition workforce to “identify and eliminate non-value-added overhead and [General and Administrative] G&A charged to contracts, limit fees for subcontractor management to reflect actual value provided (risk assumed by prime and continuous subcontractor risk reduction), and to limit Bid and Proposal allowable costs in sole source contracts and encourage effective use of Independent Research And Development (IRAD)” (Carter, 2010, p. 5).

Additionally, the initiative promoted rewarding excellence among suppliers and maximizing small business participation, specifically in situations warranting multiple award contracts for services, by pushing for a small business set aside in the event that two or more capable small businesses were to bid on such a solicitation (Carter, 2010). These objectives were to be accomplished through utilization of independent cost estimates based on historical information to project estimated “should cost” objectives. The initiative sought to strengthen the acquisition workforce by growing the workforce

and raising the skill level leveraging the unique qualities of non-profit Federally Funded Research and Development Centers (FFRDCs) and University Affiliated Research Centers (UARCs) (Carter, 2010).

Audits were to be improved in terms of consistency and quality across the DOD focusing on value added content and affordability was mandated as a requirement and should be a major consideration in the requirements and design of new programs. To avoid cost escalation, PMs were to seek to stabilize production rates and to seek approval from the head of the component authority to adjust production rates downward. PMs were also encouraged to “identify where multiple programs are pursuing similar objectives” and “eliminate redundancy within warfighting portfolios” (Carter, 2010, p. 5). Program Executive Officers (PEOs) were to be set in place across the DOD components to manage procurement of services by focusing on “improving policy and practice in this high dollar value area” (Carter, 2010, p. 5). The memo encouraged the acquisition workforce to “protect the technology base...by sustaining investment while focusing on high value-added work” (Carter, 2010, p. 6).

The update to BBP came in the form of BBP 2.0 issued on 13 November 2012 by Under Secretary of Defense Frank Kendall. The memo entitled “Pursuit for Greater Efficiency & Productivity in Defense Spending” continued and furthered the goals of the initial BBP initiatives as evidenced in the title with seven focus areas and thirty-six additional initiatives. First, affordable programs were to be achieved through implementing a system of investment planning designed to identify affordability caps which would then be enforced. “Long-term capital investment analysis covering product life cycles of thirty or forty years” would become “a standard part of the acquisition process under DOD[I] 5000.02. Service and component resource managers and leadership [would] conduct portfolio analysis to limit future investment limitations on a capital investment portfolio of products, e.g., ground combat vehicles or surface combatants” (Kendall, 2012, p. 2). The task of enforcing affordability caps “falls to senior leadership, including the [Defense Acquisition Executive] DAE, [Service Acquisition Executives] SAEs, and [Component Acquisition Executives] CAEs, who must work with the Service and Component leadership to halt programs that will not be

within the established cap unless tradeoffs to reduce cost are implemented” (Kendall, 2012, p. 2). Additionally, the initiative proposed “cost control” throughout the life cycle of the product beyond “implement[ing] ‘should cost’ based management” and “eliminate[ing] redundancy in warfighter portfolios,” by “measure[ing] a program’s cost performance to assess the effectiveness of acquisition policies” by “building stronger partnerships with the requirements community,” and by including “defense exportability features in the initial program designs” (Kendall, 2012, p. 2).

Productivity and innovation in industry and government was to incentivized not only by utilizing the proper contract types increasing the use of Fixed Price Incentive contracts, rewarding excellency among suppliers, expanding the use of IRAD in programs, and aligning profitability with department goals, but also by better defining the value sought in “best value” competition and in Lowest Price Technically Acceptable (LPTA) competitions defining technically acceptable in a way that ensures the necessary quality. These goals would also be accomplished by increasing the “effective use of Performance Based Logistics” and by reducing the “backlog of [Defense Contract Audit Agency] DCAA audits without compromising effectiveness” (Kendall, 2012, p. 4). “DCAA, with the assistance [Defense Contract Management Agency] DCMA and [Defense Procurement Acquisition Policy] DPAP, is increasing audit resources and developing a risk-based process for reducing the audit backlog” of contract closeout and pre-award audits (Kendall, 2012, p. 4).

BBP 2.0 also provides guidance to eliminate unproductive processes and bureaucracy scaling down the amount of Office of the Secretary of Defense (OSD) level reviews required and pushing the responsibility and accountability for programs down to the level of the PM, PEO, and Acquisition Executive. The guidance also presents a vision to eliminate requirements for which the costs outweigh the benefits and “reduce cycle times while ensuring sound investment decisions” (Kendall, 2012, p. 4). In addition to promoting effective competition through encouraging open system architectures, procurement of technical data packages, and increased small business roles and opportunities, BBP 2.0 emphasizes identification of risks through the technology development phase of the acquisition process and reducing those risks. The initiative also

aims to “improve tradecraft in acquisition of services” through “adopting uniform services market segmentation, improving requirements definition,” emphasizing market research, installing senior managers for service acquisitions, “expanding the use of requirements review boards” as well as “strengthening contract management outside the normal acquisition chain,” for example at the military installations (Kendall, 2012, pp. 5–6). Improvements to the professionalism of the acquisition workforce are to be accomplished through higher standards for key leadership positions and increasing the cost consciousness of the workforce in addition to the previously highlighted objectives of elevating professional qualification requirements and increasing recognition of excellence in management of acquisitions (Kendall, 2012).

The third iteration of the BBP was issued by Under Secretary of Defense Frank Kendall on 9 April 2014 through a memorandum entitled “Implementation Directive for Better Buying Power 3.0–Achieving Dominant Capabilities through Technical Excellence and Innovation.” The updates to BBP included achieving dominant capabilities in the process of controlling life cycle costs through planning “for responsive and emerging threats by building stronger partnerships of acquisition, requirements and intelligence communities, institutionaliz[ing] stronger DOD level Long Range [Research and Development] R&D Program Plans, [and strengthening] cybersecurity throughout the product life cycle” (Kendall, 2015a, p. 2).

To continue incentivizing productivity in Industry and Government, BBP 3.0 proposes to “improve the return on investment in DOD laboratories” and to improve incentivizing innovation in Industry and Government, BBP 3.0 proposes to “emphasize technology insertion and refresh in program planning, increase the return on and access to small business research and development, and provide draft technical requirements to industry early and involve industry in funded concept definition” (Kendall, 2015a, p. 2). BBP 3.0 attempts to continue its vision to eliminate unproductive processes and bureaucracy through “streamline[d] documentation requirements and staff reviews” as well as removal of “unproductive requirements imposed on industry” (Kendall, 2015a, p. 2). The initiative’s vision to promote effective competition is expanded to include “improve[ing] DOD outreach for technology and products from global markets”

(Kendall, 2015a, p. 2). Improving “the effectiveness and productivity of contract engineering and technical services” is added to the objectives to be accomplished under improving tradecraft in acquisition of services (Kendall, 2015a, p. 2). In order to “improve the professionalism of the total acquisition workforce,” BBP 3.0 adds to its goals guidance to “strengthen organic engineering capabilities, ensure development program leadership is technically qualified to manage R&D activities, improve our leaders’ ability to understand and mitigate technical risk, and increase DOD support for [Science, Technology, Engineering, and Mathematics] STEM education” (Kendall, 2015a, p. 2). To help implement the various iterations of the BBP, the Business Senior Integration Group (BSIG) was created which generally meets monthly to monitor and oversee the rollout and execution of BBP (Kendall, 2015a).

8. 2015 House Defense Committee Planned Reforms of Chairman Thornberry

Currently, the House Defense Committee has proposed the “Agile Acquisition to Retain Technological Edge Act” as part of the National Defense Authorization Act which is moving through the House and Senate for revisions and approval: “The legislation is the product of lengthy committee study of the Pentagon acquisition system, which officials and lawmakers of both parties agree too often churns out weapons far over budget and behind schedule—or leads the services to cancel them. Former [House Armed Services Committee] HASC Chairman Buck McKeon, R-Calif., set in motion the study and tapped Thornberry to lead it” (Bennet, 2015, p. 1).

To be proactive, the bill proposes to empower acquisition officials by removing barriers so that officers can pursue acquisition as a profession. It would provide a ‘Defense Acquisition Workforce Development Fund [DAWDF]’ and expedited hiring authority for hiring and training the acquisition workforce. The bill also would give acquisition PMs greater flexibility to address programmatic risk and enable the selection of contract types that best meet program objectives with an appropriate level of risk. (American Society of Military Comptrollers website, 2015, p. 1).

The bill’s acquisition reforms would pursue five objectives, including: (1) Clarify the role of senior officials to streamline decision making and promote accountability, while elevating the role of the service chiefs to decentralize authority; (2) Develop flexible alternative acquisition

“pathways” to allow accelerated prototyping and field testing within five years, while allowing more acquisition authority to the U.S. Cyber Command; (3) Improve access to non-traditional and commercial contractors to encourage competition and innovation; (4) Reduce unnecessary requirements, reports and certifications to streamline purchasing of weapons, services and information technology; and (5) Improve the quality of the acquisition workforce by renewing its development fund and establishing direct-hire authorities for employees with science, technology, engineering and math skills. (Clark, 2015, p. 1).

C. RELEVANT STUDIES ON DOD ACQUISITION PROCESS AND REFORMS

1. Gansler Report

In November 2007, the report of the “Commission on Army Acquisition and Program Management in Expeditionary Operations,” otherwise known as the Gansler Report, was released, which detailed findings from a commission chartered by the Secretary of the Army, General Geren. In response to contracting issues discovered primarily through wartime contracts that were faltering in Kuwait, the Secretary of the Army commissioned a panel to do a comparative analysis of contracting and prepare an independent report of their findings. Members of the commission included Dr. Jacques S. Gansler, Chairman of the commission and former Under Secretary of Defense (Acquisition, Technology & Logistics); David Berteau, former Principal Deputy Assistant Secretary of Defense (Production and Logistics); Dave Maddox, General, U.S. Army (Retired), former Commander in Chief, U.S. Army Europe; Dave Oliver, Rear Admiral, U.S. Navy (Retired), former Director, Office of Management and Budget, Coalition Provisional Authority, Iraq; Lee Salomon, General, U.S. Army (Retired), former Commander, U.S. Army Materiel Command; and George Singley, former Deputy Director, Defense Research & Engineering (Gansler, Berteau, Maddox, Oliver, Salomon, & Singley, 2007). These subject-matter experts in acquisition sought to examine the contracting process and provide to the Secretary of the Army and Secretary of Defense a brutal and honest investigation and assessment of Army contracting. In preparing the report, the commission interviewed over 100 people who were experienced in contingency contracting in the ongoing conflict areas of Iraq, Afghanistan, and Kuwait (Gansler et al., 2007). “The most notable characteristic of the testimony is a nearly

unanimous perception of the current problems, their gravity, and the urgent need for reform. The people in the field understand the issues and identified the necessary solutions, and the Commission recommendations reflect these valuable lessons learned” (Gansler et al., 2007, p. 2).

The Commission found that the following critical segments of the ‘Institutional Army’ have not adapted in order to enable responsive acquisitions and sustainment for expeditionary operations. Specifically, [in the areas of] financial management, civilian and military personnel, contracting and contract management, Training and education, and Doctrine, regulations, and processes. These key failures encumber the Army acquisition system’s performance and have significantly contributed to the waste, fraud, and abuse in-theater by Army personnel. (Gansler et al., 2007, p. 1).

The report went on to say that:

the expeditionary environment requires more trained and experienced military officers and non-commissioned officers (NCOs). Yet, only 3 percent of Army contracting personnel are active duty military and there are no longer any Army contracting career General Officer (GO) positions. The Army’s acquisition workforce is not adequately staffed, trained, structured, or empowered to meet the Army needs of the twenty-first Century deployed warfighters. Only 56 percent of the military officers and 53 percent of the civilians in the contracting career field are certified for their current positions. Notwithstanding a seven-fold workload increase and greater complexity of contracting, the Institutional Army is not supporting this key capability. Notwithstanding there being almost as many contractor personnel in the Kuwait/Iraq/Afghanistan Theater as there are U.S. military, the Operational Army does not yet recognize the impact of contracting and contractors in expeditionary operations and on mission success. What should be a core competence—contracting (from requirements definition, through contract management, to contract closeout)—is treated as an operational and institutional side issue. (Gansler et al., 2007, p. 2).

The commission proposed recommendations or solutions in four areas including personnel, organizational responsibility, training and tools, and legislative/regulatory.

Specifically, (1) Increase the stature, quantity, and career development of military and civilian contracting personnel (especially for expeditionary operations); (2) Restructure organization and restore responsibility to facilitate contracting and contract management in expeditionary and CONUS operations; (3) Provide training and tools for overall contracting

activities in expeditionary operations; and (4) Obtain legislative, regulatory, and policy assistance to enable contracting effectiveness in expeditionary operations. (Gansler et al., 2007, p. 5).

The commission recommended that in terms of personnel, the military should make acquisition its own career track for officers and enlisted where they are groomed in cradle to grave contracting as a profession throughout their career; however, the commission advised against making expeditionary contracting a first assignment as extensive training is necessary to prepare a candidate for this function. The commission further recommended that military leadership should be placed over the contracting command in the form of a set of ten General Officers and “a separate Army Contracting Promotion Board [be established] for both military and civilian contracting professionals and ensure functional independence of contracting professionals” (Gansler et al., 2007, p. 48). The report recommended the establishment of a separate and centrally managed Contracting Corps for both Army and civilian acquisition professionals.

In terms of organizational responsibility, the commission stated that “the Army should not separate a contracting corps from weapons systems or base operations contracting” because non-expeditionary contracting experiences offer a benefit in learning “how to best support the warfighter while operating within the bounds of sound and legal business judgment; and under the ‘special provisions’ allowable under the Federal Acquisition Regulation for such expedited needs” (Gansler et al., 2007, p. 6). The report also emphasized the need for the Army to have a customer interface for the purpose of translating “requirements into statements of work that quickly and seamlessly can be placed on contract” and to have contracting personnel conducting contingency contracting in theater with the customers they support (Gansler et al., 2007, p. 6). The commission recommended the institution of a Deputy for Contracting and Director of the Contracting Corps as a Major General billet reporting to the Assistant Secretary of the Army for Acquisition, Logistics, and Technology. “This staff position is responsible for all contracting policy and all contracting career management, including establishing and maintaining education and training standards for the civilian and military contracting workforce” (Gansler et al., 2007, p. 51). The report also recommended the establishment

of an Army Contracting Command, an Expeditionary Contracting Command, and an Installation Contracting Command.

To address training and tools, the commission recommended that contracting professionals in the expeditionary field have access to necessary information technology and e-business tools to be able to access sample documents and similar situational solutions while in theater. Additionally, the need to capture lessons learned from Operation Iraqi Freedom and Operation Enduring Freedom should be documented and taught to acquisition leaders and professionals as part of a training curriculum before they are introduced to expeditionary contracting. Finally, the committee recommended that an “Expeditionary Contracting Manual [be produced] that is focused on the expedited processes and flexibilities necessary for procuring the support needed by our warfighters in an expeditionary operation..., provide incentives for civilian contracting personnel to ensure that the Army can tap into its largest population of contracting expertise...,” and provide “personnel policies that support the roles they may be tasked to serve when the U.S. is engaged in expeditionary military operations. The Army should do a complete personnel policy review to identify changes necessary to support, properly incentivize, discipline, and provide for its civilian personnel who may be engaged in expeditionary military operations” (Gansler et al., 2007, p. 8). The Report discussed the need to add billets (up to 583 for Army support alone) to DCMA and provide them with the authority properly and consistently conduct management of contracts in times of peace and war including the management of all expeditionary contracting and all post, camp, and station contract management. With regard to legislation, Gansler stated at a press briefing at the Pentagon introducing the findings that:

we want to have a provision which the Congress approved for the Balkans and has not yet approved for Iraq, and yet even in the case of the Balkans, they didn't fully fund it, so it wasn't very valuable to have the law unless you fund the law. So we feel this is important, and we did emphasize that to them.... And then the other thing is being able to waive the buy-America, which again in Iraq they have done because you've got to be able to buy stuff while you're there right away. But on the other hand, there should be a standby provision for doing the same thing the next place we go. And we'll need provisions built into the law to do that. (Gansler and Secretary Geren, 2007, p. 1).

2. Defense Acquisition Performance Assessment (DAPA) Project

On June 7, 2005, the Defense Acquisition Performance Assessment (DAPA) Project was instituted by the Acting Deputy Secretary of Defense at the time, Gordon England, to conduct a thorough examination of the acquisition process from requirements generation to the organization, its legal foundations, decision methodologies, oversight, and the checks and balances applied to each arena (Kadish, Abbott, Cappuccio, Hawley, Kern, & Kozlowski, 2005). The intent for commissioning this panel and tasking them with the analysis was to recommend a simplified acquisition structure and set of processes that clearly defined responsibilities, lines of authority, and accountability. The findings of the panel were published in December 2005 and at the time that this study was commissioned,

[one hundred and twenty-eight] prior studies [had] been done over many years to address perceived problems with the system and to prevent fraud, waste and abuse. In fact, [the panel] observed historical evidence that cost and schedule instability has been a problem in past system acquisitions, since the Revolutionary War....We concluded that the problems were deeply embedded in many of the management systems we use in DOD, not just the traditional acquisition process. (Kadish et al., 2005, p. 2).

The panel “reviewed over 1,500 documents to establish a baseline of previous acquisition reform recommendations, held open meetings and operated a public website to obtain public input, heard from 107 experts, received over 170 hours of briefings, conducted a detailed survey and interviews of over 130 government and industry acquisition professionals, and subsequently developed 1,069 observations” (Kadish et al., 2005, p. 2). Out of the observations, the panel arrived at forty-two focus areas for reform which could be characterized in the following six groups: Organization, Workforce, Budget, Requirements, Acquisition, and Industry (Kadish et al., 2005). “DAPA’s major findings included recognition that the industrial base had consolidated significantly since the mid-eighties and that the nature of the post-Cold War security environment placed a premium on flexibility and technological exploitation” (Eide & Allen, 2012, p. 104). Specifically, some of DAPA’s major findings included the necessity for the acquisition system to deal with external instability especially in terms of evolving security environments and complex national issues (Eide & Allen, 2012). The panel found that the

DOD management process and structure was predicated upon distrust of the acquisition professional with a preference of a micro-management style oversight over accountability (Kadish et al., 2005). Additionally, the oversight process was program focused versus process focused further complicating issues. From the analysis, the panel realized that complicated acquisition processes increased cost and elongated schedule instead of resulting in the initially intended outcomes (Kadish et al., 2005). Furthermore, the analysis showed that the DOD frequently embraced measures that resulted in short term savings and flexibility which later materialized as cost increases later in the life of the program. The DAPA panel recommended that the DOD processes be stabilized to be successful and replace quantity of reviews with quality reviews. The panel's conclusion were that "an effective Acquisition System requires stability and continuity that can only be developed through integration of the major elements upon which it depends" (Kadish et al., 2005, p. 7). Those elements being the following: organizational structure; the workforce or talent that drives the system and makes it functional; the budgetary function which allocates and prioritizes resources; the acquisition requirements that define the DOD procurement needs; acquisition processes that manage the development of emergent military capabilities; and the industrial base that builds those new capabilities (Kadish et al., 2005, p. 7). The DAPA project report went on to say,

Ideally, all of these entities must work in harmony to provide a stable and predictable environment that will ensure an effective, efficient Acquisition System. In practice, there are fundamental disconnects in the Department of Defense management systems and Congressional oversight. Competing values and objectives create unrecognized government-induced instability in our acquisition process. (Kadish et al., 2005, p. 7).

The panel recommended reduction of instability through transformation of those major elements. For organization, the panel suggested that the DOD "realign authority, accountability and responsibility at the appropriate level and streamline the acquisition oversight process" (Kadish et al., 2005, p. 8). In terms of the workforce, the DOD was encouraged to build up and place a higher value on the acquisition workforce while also providing incentives to leadership. The DOD was urged to "transform the budgeting process and establish a distinct Acquisition Stabilization Account to add oversight throughout the process" (Kadish et al., 2005, p. 8). With regard to requirements

development, the recommendation was to “replace [Joint Capabilities Integration Development System] JCIDS with [Combatant Command] COCOM-led requirements procedures in Services, and DOD agencies must compete to provide solutions” as well as “add an ‘operationally acceptable’ test evaluation category and give program managers explicit authority to defer requirements” (Kadish et al., 2005, p. 8). The panel advocated for strategizing acquisitions to “shift time-certain development procedures [and adopting] a risk-based source selection process” as well as changing “from a focus on 100 percent performance in the first production lot to a focus on delivering useful military capability within six year[s] of Milestone A” (Kadish et al., 2005, p. 8). On the Industry side the panel suggested “[overcoming] the consequences of reduced demand by sharing long range plans and restructuring competitions for new programs with the goal of motivating industry investments in future technology and performance on current programs” (Kadish et al., 2005, p. 8).

3. Government Accountability Office (GAO)

The DOD, in its continued quest to increase the efficiency of the acquisition process, underwent another review this time by the GAO which examined the milestone decision process.

The National Defense Authorization Act for Fiscal Year 2014 mandated GAO to review DOD’s weapon system acquisition process. This report examines (1) the effort and value involved in the preparation for a milestone decision; (2) factors that influence the time needed to complete the milestone decision process; and (3) alternative processes used by some DOD programs and leading commercial firms. To perform this work, GAO examined the levels of review and information requirements that are part of DOD’s process. GAO surveyed twenty-four PMs and forty other DOD officials on the value and the time to complete milestone documentation. For fifteen program offices, [GAO] gathered data on the time to complete the entire milestone decision process [and] discussed with DOD officials the factors that lead to inefficiencies. GAO also examined practices used by some classified DOD programs and five commercial firms generally recognized as leaders in product development. (GAO, 2015, p. 2).

The result of this review was a GAO report released on February 24, 2015, entitled

Acquisition Reform: DOD Should Streamline Its Decision-Making Process for Weapon Systems to Reduce Inefficiencies.” According to the report, “the acquisition programs GAO surveyed spent, on average, over two years completing numerous information requirements for their most recent milestone decision, yet acquisition officials considered only about half of the requirements as high value. The requirements, in total, averaged 5,600 staff days to document. (GAO, 2015, p. 2).

The report went on to say

the DOD’s review process is a key factor that influences the time needed to complete information requirements. The process in some instances can include up to fifty-six organizations at eight levels and accounts for about half of the time needed to complete information requirements. Most PMs felt that these reviews added high value to only 10 percent of the documents. (GAO, 2015, p. 2).

As a result of the study, the GAO realized that some level of reduction of reviews and information requirements is necessary without handicapping the DOD’s ability to conduct meaningful oversight. The GAO report published two recommendations for further study in these areas, one short term strategy and one long term. In the near term, the GAO recommended that the DOD attempt to

identify and potentially eliminate (1) reviews associated with information requirements, with a specific focus on reducing review levels that do not add value, and (2) information requirements that do not add value and are no longer needed. For the remaining reviews and information requirements, evaluate and determine different approaches, such as consolidating information requirements and delegating approval authority, which could provide for a more efficient milestone process. This effort should also include a re-examination of the reason(s) why an information requirement was originally considered necessary in order to determine what information is still needed and if a more efficient approach could be used. (GAO, 2015, p. 31).

as a longer-term effort, select several current or new major defense acquisition programs to pilot, on a broader scale, different approaches for streamlining the entire milestone decision process, with the results evaluated and reported for potential wider use. The pilot programs should consider the following: (1) Defining the appropriate information needed to support milestone decisions while still ensuring program accountability and oversight. The information should be based on the business case principles needed for well-informed milestone decisions including well defined requirements, reasonable life-cycle cost estimates, and a

knowledge-based acquisition plan. (2) Developing an efficient process for providing this information to the milestone decision authority by (a) minimizing any reviews between the program office and the different functional staff offices within each chain of command level and (b) establishing frequent, regular interaction between the program office and milestone decision makers, in lieu of documentation reviews, to help expedite the process. (GAO, 2015, p. 31).

At present, the agencies are considering implementing these recommendations for the next wave of acquisition reform.

D. RECENT WORKFORCE COMPOSITION AND THE IMPACT OF FURLOUGH EVENTS OVER THE PREVIOUS TWENTY-FIVE YEARS

It is difficult to identify a confident and consistent estimate of the number of DOD acquisition professionals, however, the best estimate is from a panel report to the House Committee on Armed Services in March, 2012 that estimates there are 151,608 total acquisition personnel in the DOD, consisting of 135,981 civilians and 15,627 military personnel. However, this number does not include support service contractors that perform acquisition-related support to the government, which would likely cause that number to increase (*Challenges to Doing Business with the Department of Defense*, 2012).

The workforce composition and operating environments over the previous twenty-five year period has been a consistently challenging environment. During the 1990s, the size of the acquisition workforce was decreased, leading to a reduced number of acquisition personnel in the Department of Defense and “increased the risk of poor contract planning, management, and oversight” (*Challenges to Doing Business with the Department of Defense*, 2012, p. 1). During the 2000s, there was a substantial increase in the amount of contracting being performed, mainly due to fighting two wars in Afghanistan and Iraq while the workforce itself was decreasing in number. In multiple congressionally-directed reports, audits, and investigations, policy makers questioned whether the DOD “had the right mix of acquisition workforce personnel trained and equipped” to perform their job functions (*Challenges to Doing Business with the Department of Defense*, 2012, p. 1). Currently, there are concerns with the lack of

experience and expertise in DOD acquisition professionals due to retirements and reductions in the workforce that has persisted over this period (*Challenges to Doing Business with the Department of Defense*, 2012, p. 1).

1. Furloughs (1990s and 2013)

During the 1990s, according to the Bancroft Library Regional Oral History Office of the University of California at Berkeley, the DOD acquisition workforce was impacted by furloughs to civilian employees of the federal government on multiple occasions. A few of the most notable were two separate furloughs between November 14, 1995 and January 6, 1996 totaling twenty-six days in all according to bancroft.university.edu. The 1995–1996 furloughs were provoked by a budgetary standoff between the White House and the Congress, which resulted in a government shutdown. The shutdown affected all “non-essential” civilian employees of the federal government and was brought about by heated disagreements “between Democratic President Bill Clinton and Republican Speaker of the House Newt Gingrich over domestic spending cuts for the fiscal year 1996 budget” as documented on bancroft.university.edu. Specifically, the President and House Speaker disagreed over funding for Medicare, education, the environment, and public health. The impasse and eventual government shutdown did not bring about the intended agreement; however, it did result in a bipartisan agreement to balance the budget over the next seven years. Prior to the shutdown, the federal government was operating under Continuing Resolution, which dictates that in the absence of a congressional funding appropriation no new programs may be initiated and all existing programs should operate at the prior year’s appropriation level according to bancroft.university.edu.

As a result, it has been estimated in the Washington, D.C., area alone that “one fifth of federal contracts were put on hold, with many employees furloughed. Many of these contractors were not reimbursed” (Office of Chairman, Fairfax County Board of Supervisors, 2013, p. 2). Following the 1995–1996 government shutdown, the Furlough Protection Act of 1995 was passed, which provides for the “temporary continuance of basic civilian and military pay and associated benefits and allowances of federal and District of Columbia personnel during any period of lapsed appropriations in which they

perform service or are furloughed due to the failure to timely enact appropriations legislation for the employee's agency" (S.1246, 104th Congress, 1995, p. 1).

Government furloughs would impact the acquisition workforce approximately a decade and a half later when budgetary conflicts rose to the forefront of political discourse once again. On August 2, 2011, the President signed into law the Budget Control Act of 2011 as a measure to deal with the ongoing debt-ceiling crisis that threatened to send the nation into default the following day. As part of the act, sequestration was implemented which required automatic budget cuts across the DOD agencies as a measure to decrease spending at a faster pace than the nation's credit limit was increased. The onset of sequestration triggered furloughs of federal civilian employees across the services for seventeen days in 2013. In the years leading up to the furloughs and during furloughs, federal programs were operating for the majority of the year under continuing resolution authority, mandating no new start programs and existing programs were not to progress past the funding allotted from the previous year's appropriation level.

Budget constraints, an uncertain fiscal environment, and the commencement of furloughs were anticipated to have wide ranging impacts on federal acquisition programs for technology and the acquisition workforce. Specifically, the acquisition chiefs of the various services "warned members of the House Armed Services Committee that the ongoing budget uncertainty is putting the nation at risk" crediting "halted development programs, hiring freezes, and narrowing technological advantages" (Roulo, 2013, p. 1). Ms. Heidi Shyu, the assistant secretary of the Army for Acquisition, Logistics and Technology, illuminated the adverse impact with regard to stability's central role in conducting successful acquisitions stating that "Our capacity to maintain expertise in science and technology, engineering, contracting, cost estimation [and] logistics are all at risk because one of the most attractive benefits to the government employee -- the stability -- has been undermined" (Roulo, 2013, p. 1). The Assistant Secretary of the Navy for Research, Development and Acquisition, Sean J. Stackley, claimed that "maintaining current readiness and forward presence to the extent possible under sequestration comes at expense to our investment in future readiness. In fiscal year 2014

alone, absent congressional action or mitigating circumstances, the continuing resolution and sequestration would cause cancelled procurements of up to three major warships and twenty-five aircraft” (Roulo, 2013, p. 1).

The acquisition chiefs further stated that sequestration as a whole, would end up costing the government more than it would save through the extreme measures implemented. William A. LaPlante, the Air Force’s Principal Deputy Assistant Secretary for Acquisition claimed that “cuts to development programs will drive up unit costs and are already delaying testing” (Roulo, 2013, p. 1). According to Ms. Shyu, upwards of 192 Army programs could be affected across the life of sequestration “noting that some of the most significant repercussions would be felt in the AH-64E Apache and CH-47 Chinook helicopter programs” and that “the Army [would] be in danger of losing the production contracts entirely...exposing the government to \$77 million in termination liabilities and a \$1.4-billion increase in costs....Ultimately, the ability to be good stewards of public funds depends upon a stable, predictable and adequate funding environment” (Roulo, 2013, p. 1).

Although the October 2013 shutdown was shorter than the twenty-one day shutdown that took place in December 1995 – January 1996, the total number of employee furlough days was larger, even if one adjusts for growth in the size of the Federal workforce. This is largely because seven appropriations bills were enacted before the start of the December 1995 – January 1996 shutdown, so several major agencies were able to operate normally during that period of time. By contrast, as of October 1, 2013, no agencies had received full Fiscal Year 2014 annual appropriations. One way to quantify the cost of furloughs is in terms of the amount the Federal Government had to pay for work not performed. [The White House] estimate[s] that the total cost of pay due to federal employees furloughed during the shutdown is roughly \$2.0 billion; total compensation costs are about 30 percent larger (about \$2.5 billion). This exceeds the comparable payroll costs of \$430 million (about \$650 million in today’s dollars) for the November 1995 shutdown and \$630 million (about \$1 billion in today’s dollars) for the December 1995 – January 1996 shutdown. (Executive Office of the President of the United States, 2013, p. 13).

The GAO is currently conducting reviews to identify the actual effects of the furloughs and of ongoing sequestration.

2. Recent Trends in Acquisition Workforce Composition

Recently, the DOD has received mostly positive reviews for its attempts to rebuild the acquisition workforce towards the end of the 2000s and as it enters the next decade. This is a result of the Secretary of Defense's Acquisition Workforce Growth Initiative, which targeted adding 20,000 civilians to the acquisition workforce by 2015 (Gates et al., 2013). To achieve this goal, it included the "in-sourcing" and conversion of the DOD acquisition-related jobs performed by contractors to civilian positions within the DOD (Gates et al., 2013). The Secretary believed the DOD had become too reliant on service contractors to perform these job functions on behalf of the government. A secondary goal was to improve the "capacity and skill sets that had been eroded in the years that followed the downsizing of the workforce in the 1990s" (GAO, 2011, p. 3). Congress provided the resources to assist in this initiative by creating the DAWDF to fund the hiring of DOD acquisition professionals (*Challenges to Doing Business with the Department of Defense*, 2012).

As part of the Secretary's growth initiative, the DOD acquisition workforce grew by 24,571 civilians by 2011, which exceeded the Secretary's initial goal of an additional 20,000 acquisition workforce civilians (Gates et al., 2013). Just prior to 2011, the Secretary announced that he was ending his workforce initiative and in March of 2011 instituted a DOD-wide hiring freeze for the entire civilian workforce, including the acquisition workforce. This hiring freeze was caused by uncertainty surrounding the Service's budgets in future years (GAO, 2011). As a result of the focus placed on increasing the DOD's civilian acquisition workforce, the percentage of the DOD's workforce that was categorized in an acquisition-related field increased from a relatively steady 10 to 12 percent from Fiscal Year (FY) 2001 and earlier to 17 percent in FY 2011, an increase of 5 to 7 percent in ten years (Gates et al., 2013).

Recent trends, based upon data provided by the DOD to the Rand Corporation for analysis, show that between FY 2008 and FY 2011, the attrition rate, or percentage of workforce that leaves the DOD acquisition workforce, is fairly consistent at a low rate of departure, especially when compared to the entire DOD civilian workforce. Rand Corporation theorizes that this may be caused by a lower number of voluntary or

involuntary separations offered to the DOD acquisition workforce and because of poor economic conditions as a result of the Great Recession (Gates et al., 2013).

Because of an influx of less experienced acquisition workforce civilian personnel and more senior and experienced acquisition personnel being close to retirement, it has created what is referred to as the “new hire bulge” and the “retirement bulge,” which leads to a “bathtub effect” of less experienced acquisition professionals on one end of the spectrum and a concentration of more experienced acquisition professionals on the opposite side that is nearing retirement, with a lack of mid-range acquisition professionals to fill in the gap (*Challenges to Doing Business with the Department of Defense*, 2012). Almost half of the DOD acquisition workforce had less than ten years of experience in federal service while approximately 4 percent of the DOD acquisition workforce became eligible for retirement beginning in FY 2007 continuing at the same rate over the following ten years (Gates et al., 2013). This leaves a gap in that “mid-career personnel are not abundant enough to adequately replace the retirement bulge, nor provide for enough on-hands mentoring to the new-hire bulge” (*Challenges to Doing Business with the Department of Defense*, 2012).

E. INCREASED USE OF AUTOMATED SYSTEMS TO AID IN THE ACQUISITION PROCESS OVER THE PREVIOUS TWENTY-FIVE YEARS

Due to changes and growth in the technology available to assist the acquisition workforce in conducting its daily tasks, it has become an integrated part of the daily tasks performed by the DOD acquisition workforce as part of their job requirements. One of those uses of technologies is the Paperless Contracting Files (PCF) currently utilized by the U.S. Army Contracting Command - Aberdeen Proving Ground (ACC-APG), Natick Contracting Division (NCD). The development, testing, and timeline of release will be researched as a singular example to see the impact of technology reforms in the daily tasks of the DOD acquisition workforce.

The use of metrics and other data systems will also be investigated from a holistic standpoint to identify the impact to the acquisition workforce by their increased use due to the improvements in technology.

1. Paperless Contract Files (PCF)

The ACC mandated use of PCF as the official record of the contracting file for contracting professionals within the command beginning in FY 2013. PCF is a web-based application that allows for use either in or outside of the office. It is secure and accessible with use of a Common Access Card (CAC). It also offers a workflow and review function that mimics standard business processes (Paperless Contract Files (PCF), 2015).

The first pilot program of what finally led to the use of PCF began in May 1998 and concluded in June 1999 when former Deputy Assistant Secretary of the Army (Procurement) (DASA(P)) requested NCD to participate in a paperless contracting environment to “prove the concept” of paperless contracting (O’Day, 1999). This pilot program also included what became Wide Area Workflow (WAWF), which is the paperless invoicing system for DD250s utilized by the DOD, and Army Single Face to Industry (ASFI), which is utilized to release notices of intent to solicit and award requirements and to provide industry access to solicitation documents for proposal submission (O’Day, 1999).

The pilot study was initiated to meet the DOD goals of “maximum elimination of paper transactions by year 2000” (O’Day, 1999, p.1). The pilot program was considered a success and recommended for further investigation for utilization to meet the DOD’s goal (O’Day, 1999). Specific to PCF, internal NCD emails provided as part of the research for this topic indicated that PCF would be deployed in the Spring/Summer of 2008. As stated above, a workable PCF solution was not mandated for use until FY 2013, which is thirteen years after the DOD preferred to have the maximum elimination of paper transactions, of which, contract files are a major part. It is also five years after NCD’s headquarters at ACC-APG was notified of an impending implementation of PCF.

2. Use of Automated Reporting and Metrics Based Tracking

To accommodate the goals of the various acquisition reform initiatives, the DOD needed to be able to track its progress and to do this the services needed to move toward automated systems for data collection allowing greater visibility and increasingly real-time information. This move began with a policy memorandum issued on May 21, 1997,

from the then-Under Secretary of Defense (USD), John J. Hamre, who disseminated written direction from the Secretary of Defense that the services “undertake a revolution in business practices in conjunction with the Quadrennial Defense Review. [The Secretary of Defense] has specifically cited the need to simplify and modernize our acquisition process in the area of contract writing, administration, finance, and auditing” (Hamre, 1997, p. 1). The memorandum went on to say that

in order to determine the feasibility of sweeping changes in this area, I am requesting the Under Secretary of Defense (Acquisition and Technology) to develop, by July 1, the blueprint of a plan to move to a totally paper-free contract writing, administration, finance, and auditing process. This plan should be coordinated with all of the organizations that participate in the integrated process. The plan should incorporate the Department’s ongoing initiatives for use of purchase cards, electronic catalogues, electronic commerce and imaging. (Hamre, 1997, p. 1).

As part of the directive to stand up paperless contract writing and administrative systems, the Standard Procurement System (SPS), also known as Procurement Desktop-Defense (PD2), was generated. SPS was anticipated to be the initial step towards paperless contracting with the intention of achieving a totally paper free acquisition process by the year 2000 (Bennet, 1998). “The SPS is a standardized automated procurement system for use by the DOD procurement community.... The program also includes deployment of a Shared Data Warehouse, and interfaces between PD2 and legacy logistics systems, training and support” (Bennet, 1998, p. 37). According to the website for the PD2 developer, CACI, SPS provides the ability to automate and control a procurement from initial solicitation through award and contract administration and eventually close-out in a desktop environment for efficient paperless contracting. The PD2 interface allows simplified “document management, electronic routing and approval, [a] web-based reference library with both the federal and DOD acquisition regulations, the Federal Procurement Data System (FPDS)” and miscellaneous reporting capabilities as well as “improved funds management,” visibility, and support for a variety contract actions (CACI.com, 2015). Required by the Federal Funding Accountability and Transparency Act of 2006, the FPDS system is a supplemental system interfacing with PD2 that reports data from the contract writing system to the publicly accessible USASpending.gov. According to Title 48 of the Code of Federal Regulations, reports are

required through the FPDS for all contract awards over \$3,000 and every modification issued thereafter (Federal Acquisition Regulation System, 2007). This information is updated on the USASpending.gov website daily for near real-time status and open transparency into government transactions. Following the creation of SPS, the government initiated the Electronic Document Access (EDA) system which served as an online repository of government contracts. Contracting professionals were directed to input the contract awards, their attachments, and subsequent modifications in the system for simplified information exchange with the global contracts community. EDA also served as an electronic communications portal between the authorized system users in the contracting field and the payment processors at Defense Finance and Accounting Service (DFAS) for the issuance and resolution of contract deficiency reports.

To address the need for paperless finance and auditing systems, the services instituted a set of systems known as the Enterprise Resource Planning (ERP), which have been utilized across the Services to track funds as well as property (DOD's Enterprise Resource Planning (ERP) system Implementation Efforts, 2011). The concept of utilizing ERP systems came from the Federal Information Auditability Readiness (FIAR) plan circulated for the first time in 2005, to carry out directives established in earlier reforms such as the Chief Financial Officers Act of 1990 and the Federal Financial Management Improvement Act of 1996 (DOD's Enterprise Resource Planning (ERP) system Implementation Efforts, 2011). To comply with the mandate for an automated finance and auditing system, the Services each employed their version of the ERP. The ERPs were instituted to enhance the services' ability to address longstanding vulnerabilities in financial management and attain audit readiness. Each service contracted for and employed their own version of the ERP. The Navy instituted the Navy ERP (NERP), the Army instituted the General Fund Enterprise Business System (GFEBS), and the Air Force instituted the Defense Enterprise and Accounting Management System (DEAMS) (DOD's Enterprise Resource Planning (ERP) system Implementation Efforts, 2011). The NERP system was designed to provide:

... improved financial discipline, improved accuracy with automated entry of key data fields and an audit trail associating users and electronic documents with transactions [as well as] ... a single system for budgeting,

funds availability, and execution across all major acquisition commands” according to Eric Fanning, Deputy Under Secretary of the Navy and Deputy Chief Management Officer, U.S. Navy (DOD’s Enterprise Resource Planning (ERP) system Implementation Efforts, 2011, p. 1).

Similarly, Mark Lewis, Deputy Chief Management Officer for the U.S. Army, stated at the same hearing that GFEBS was designed to “consolidate the management and reporting of...general funds and assets across the Army enterprise. GFEBS also provides for real property accountability” (DOD’s Enterprise Resource Planning (ERP) system Implementation Efforts, 2011, p. 1). David Tillotson III, Deputy Chief Management Officer for the U.S. Air Force, testified that

the Air Force uses thirty-six Financial Management systems, nine of which will be retired from use by the Air Force with [DEAMS] Full Operating Capability (FOC). At FOC, the Air Force expects to save on average \$18M annually by the replacement of legacy information technology systems. The remaining systems are not being subsumed because they contain core functionality outside the DEAMS program scope (e.g., Budget Formulation, Funds Distributions), or are being addressed by other ERP systems (e.g., Military Pay in [Air Force-Integrated Personnel and Pay System] AF-IPPS, and Working Capital Fund Accounting in [Expeditionary Combat Support System] ECSS). (DOD’s Enterprise Resource Planning (ERP) system Implementation Efforts, 2011, p. 1).

The move toward automated systems continued when the then-Under Secretary of Defense for Acquisition and Technology, Mr. Jacques S. Gansler, issued a memorandum entitled “Collection of Past Participation Information in the Department of Defense” on November 20, 1997 stating that:

automation of collection and retrieval of [Past Participation Information] PPI is critical to full implementation of this policy. The Deputy Under Secretary for Defense (Logistics), Life Cycle Information Integration Office is responsible for conducting an automated pilot effort to define the DOD interfaces to existing PPI systems and demonstrate an integrated past performance collection capability. (Gansler, 1997, p. 1).

This plan eventually manifested in automated systems for recording past performance information, called Past Performance Information Retrieval System (PPIRS), and an automated system for retrieving the information, called Contractor Performance Assessment Reports System (CPARS). Additionally, other systems were

implemented to ensure contractor performance and viability such as the Central Contractor Registry (CCR), Online Representations and Certifications Application (ORCA), Excluded Parties List System (EPLS), System for Award Management (SAM), and Federal Awardee Performance and Integrity Information System (FAPIIS). The CCR was implemented after the passage of the Central Contractor Registry Act of 2004, which directed the Secretary of Defense to maintain a centralized, electronic database for the

registration of sources of property and services (contractors) who seek to participate in contracts and other procurements entered into by various Federal procurement officials. [The Act] requires the Registry to include certain tax-related information for each contractor, including their taxpayer identification numbers and authorization for the Secretary of Defense to obtain verification of such numbers from the Commissioner of Internal Revenue [and] makes contractors who do not register such information, or who register invalid information, ineligible for contracts entered into under the Federal Property and Administrative Services Act of 1949. (S.2383, 2004, p. 1).

Likewise, in 2004, the ORCA system was implemented as a result of President Bush signing into law the eGovernment Act of 2002 (DOD ORCA.ppt, 2004). The central goal of the legislation was to replace the system previously in place, which relied on paper documentation and lacked the open accessibility and transparency afforded by an online functionality. Upon registration by the contractor, the ORCA system prepopulated with the previously input CCR information (DOD ORCA.ppt, 2004). The contractor may then enter their representations and certifications and, rather than having to resubmit for every new solicitation, the contractor can certify that the representations and certifications are current, accurate, and complete or revise them as necessary (DOD ORCA.ppt, 2004). Complimenting these systems is the EPLS, which was established as an online catalogue of debarred or suspended contractors no longer eligible for award of federal contracts or subcontracts (Ginman, 2011). The CCR, ORCA, and EPLS systems were combined in 2012, through the SAM in an effort to eliminate redundancies and reduce the burden on contractors by providing a single interface according to the website, Regulations.gov. The information from the three systems transitioned automatically to the new SAM upon implementation. The Federal Acquisition Regulations require that contractors register with CCR and ORCA, and that contracting professionals check SAM

to ensure that no adverse records are on file that would prohibit the award of a federal contract prior to issuance. Additionally, contracting professionals are required to utilize FAPIIS prior to contract award (Ginman, 2011). FAPIIS was implemented in 2010 as a tool for contracting officers to assist in responsibility determinations. The system is a compliment to the EPLS and compiles records regarding criminal convictions, active legal action, and contract performance records. The two publicly accessible systems must be checked to ensure a clear record prior to analyzing proposals submitted and again prior to the award of a contract (Ginman, 2011).

The WAWF system was instituted to automate the invoice and billing process. In the past, the process of invoicing and billing through submission and routing of paper documents resulted in lost paper trails, administrative errors, and ultimately payment delays that cost the government significant funds in interest charges (Tourinsky & Haber, 2007). Receiving reports and invoices were processed individually according to the order in which they were submitted. The automated WAWF system ensured that all of the necessary documents were electronically uploaded in one place, eliminating redundancy and increasing the chances that prompt payments could be achieved. It was reported that the

primarily paper-based receipt and acceptance process was resulting in lengthy invoice turnaround times, growing interest burdens, and hefty processing fees. In fiscal year 2001 alone, the Navy spent more than \$30 million in interest payments and well over that in vendor payment processing fees.... The WAWF initiative was built on a foundation of full utilization of source data input—shared electronic documents, data, and information. The Navy's specific impetus to implement WAWF was targeted at three main objectives: To eliminate paper from the acquisition process, enabling users to access and track documents and processes electronically, thereby increasing both efficiency and accountability; to save money by lowering interest penalties through faster payment to contractors and lowering transaction processing fees by way of electronic automation; and to allow the Navy to track supplies, services, and government property by integrating Unique Identification (UID), Radio Frequency Identification (RFID), and other technologies. (Tourinsky & Haber, 2007, p. 2).

The WAWF system also provided the capability to track government property, provide global, real-time accessibility and processing of documents, improved data accuracy, and secure auditable transactions (Tourinsky & Haber, 2007).

Coinciding with the acquisition reforms driving the creation of electronic catalogues and the increased use of commercial items, was the General Services Administration's (GSA) development of the GSA Advantage website, hosting the GSA Schedules (GSA Student Guide, 2014). The GSA Schedules provided pre-negotiated commercial contracts with preapproved commercial vendors that afforded discount pricing as a benefit of the bulk supplies and services pre-negotiated by GSA. This online portal became an easy access vehicle for the acquisition workforce to engage in e-commerce for expedited purchase of commercial products as well as services (GSA Student Guide, 2014). As an offshoot of the initiative to create electronic catalogues, the federal government created the Federal Business Opportunities (FedBizOpps) to publicly post synopses, solicitations, and award notices for contract actions over \$25,000. The creation of the website increased the ability for the acquisition community to ensure maximum competition as this venue provided wide dissemination of upcoming business opportunities with the federal government.

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III. ANALYSIS AND CONCLUSION

The previous chapter provided the reader with information from research conducted by the authors to investigate the acquisition reform thesis and the effect of those reforms on reporting requirements and workforce improvements undertaken in the previous twenty-five year period. Chapter III will build upon the research information provided in Chapter II to present the reader with an analysis of these facts in determining a path forward for DOD acquisition reform and provide the authors' conclusion with a recommendation for future defense acquisition reform platforms.

A. RESEARCH QUESTION ANALYSIS

The various DOD acquisition reform initiatives concentrated mainly on initiating improvements, implementing structure to facilitate accountability, fostering innovation while streamlining the acquisition process and cutting costs, as well as collecting real-time data for better evaluation of the state of acquisition within the DOD as these reforms were implemented. However, in spite of all of the reforms implemented, the discussion on how to achieve effective reforms within the system are ongoing in Congressional halls and within the acquisition community. Seemingly,

the current defense acquisition process itself drives significant increases in the costs of defense acquisitions. Specifically, one-third of defense procurement costs go to overhead. In the past, acquisition reform efforts at the DOD have reflexively assumed that an additional layer of review and greater centralization will solve whatever shortcomings exist in the system. Reformers, whether in the legislative or executive branch, have too frequently accepted these increases in overhead because they believe that the extra layers of review and centralization will be outweighed by the savings brought about by a reduction in the likelihood of mismanagement. While this acceptance may be justified when an individual reform is examined in isolation, the accumulation of reviews has resulted in the inverse outcome. (Bucci & Maine, 2013, p. 1).

1. Primary Research Question: What acquisition workforce reform initiatives have proven successful in reducing cost, schedule, and improving system quality control and why?

Data is lacking to analyze the effect of legacy acquisition reforms on the Defense acquisition process that correlate directly to specific acquisition improvements for a majority of the acquisition reforms initiated through the preceding twenty-five years. DAWIA focused specifically on acquisition workforce reforms, while SARA focused in part on acquisition workforce reform as part of a broader acquisition reform initiative. Although we can detail whether the reforms were enacted in accordance with the two laws, which would be one way of defining success, there is no data that specifically supports a positive or negative impact by the reform on reducing cost, schedule, and improving system quality control, the intended outcomes of most acquisition reforms. The GPRA, FASA, FARA, and SARA all focused on reforms to the acquisition process by changing thresholds and increasing oversight and support of defense acquisitions and not specifically on the acquisition workforce. While arguments can be made that some of these reforms helped to alleviate constraints on the workforce, for example, the FARA acquisition threshold increases and focus on commercial products and services, these authors were unable to find data to support the impact that it has had on the workforce that would prove success in reducing cost, schedule, and improving quality control. This could be due in large part, to a lack of acceptability of electronic data calls that have become a more integrated part of current business operations in the technological world of more recent acquisition reform. It is highly likely that there is a lack of data available because it was not the norm to track the reforms using objective data measures. Additionally, most reforms are targeted towards large weapons systems, which only make up a small portion of the defense acquisition budget (Clark, 2015). This may skew any available data or perceptions on acquisition reform as it historically fails to account for less complex acquisitions.

The effects of the three iterations of the Better Buying Power Initiative have been assessed through various reports to track the progress made and, according to the resultant reports of those assessments, the data shows positive results. Since 2013 and

conducted on an annual basis, the USD (AT&L) publishes an extensive research report on the “Performance of the Defense Acquisition System.” The report focuses on assessing the efficiency with which the department delivers products to the warfighter, what changes over time are impacting performance, and what areas within the process are still in need of improvements. “By using objective data and analysis to measure performance” the reports claim to “identify underlying drivers and inform future decisions on programs, policies, and processes” (Kendall, 2013, p. 3).

The 2014 Performance of the Defense Acquisition Systems Report claims to “show...that less cost growth has occurred on major acquisition programs recently than in the past” (Hunter, 2014, p. 1). The report credits this success to a combination of the Better Buying Power Initiatives and to the 2009 Weapons System Acquisition Reform Act because the reforms appear to have

led to improved decision-making early in the acquisition process, when programmatic success or failure is largely determined, by being more realistic in projecting costs and evaluating technologies. They also reinforced the requirement for competition among contractors and the imperative of avoiding gold-plated requirements of the weapons and systems they produce. (Hunter, 2014, p. 1).

While it is a possibility that this assessment is correct, this conclusion cannot be made by the authors of this research because of the vast array of reforms that are functioning in some fashion alongside the BBP and WSARA.

The 2015 Performance of the Defense Acquisition System analysis report concludes that “cost growth on our major programs is generally at or better than historical levels,” however, the report did identify additional areas for improved performance (Kendall, 2015b, p. iii). Data from the report indicates that program managers are not requiring additional funding for their programs from initial baseline estimates, which the report implies is a result of better estimating on the anticipated program costs and of contractors for MDAP contracts “doing a better job of meeting cost targets” (Kendall, 2015b, p. iii). The report suggests this is further evidenced by the “significant increase in the number of MDAP contracts started since 2009 with price reductions compared to earlier contracts” (Kendall, 2015b, p. iii). The reports imply that these results are

“evidence of early success from Better Buying Power (BBP) initiatives,” specifically, the should-cost initiative. The should cost initiative “requires our managers to actively seek ways to save money and to set targets for doing so, not just to stay within their budgets. This is a major cultural change that seems to be taking hold” (Kendall, 2015b, p. iii). The authenticity of this data, however, cannot be verified because of the possible effects of previous reforms which are still in effect and could possibly influence these findings.

Because the effects of the BBP cannot be analyzed in isolation, the outcomes of these assessments cannot be considered definitive. Since the USD (AT&L) both generates the BBP and performs the assessments, there is a possibility that the assessments are biased in favor of the initiatives to support the presuppositions of the authors of the legislation.

2. Secondary Research Question: What measures have been put in place to determine success or failure regarding the impact of the reform initiatives on the acquisition process?

Data is lacking to analyze the effect of legacy acquisition reforms on the Defense acquisition process that correlate directly to specific acquisition improvements. For example, while it is possible to track the number of acquisition workforce that are DAWIA level certified in their career field, there is no correlating data that shows a direct relation to a positive or negative effect on Defense acquisition. While a multitude of Congressional reporting requirements and increased oversight were the tracking mechanism of most other acquisition reforms in the preceding twenty-five years, it is difficult to ascertain objective data that shows the impact of these reforms on reducing cost, schedule, and improving system quality control. For instance, GAO report GAO-13-103, issued in December of 2012, analyzed the effects of the WSARA; it painted a positive picture of the effect the WSARA was having on DOD acquisition reform. However, this was only a result of a GAO review of eleven weapon acquisition programs and provided anecdotal evidence of success, such as a preliminary independent review of the Ground Combat Vehicle forced the Army to reduce the number of requirements for the acquisition by 25 percent and prioritized the relative importance of the remaining requirements to allow industry to apply creativity to meeting the government’s

requirement (Government Accountability Office, 2012). While it certainly shows the positive intended consequence from the WSARA implementation, there is little real objective data to support the impact of the reform. This makes it difficult to interpret the success of acquisition reforms and is a consistent finding when researching the effectiveness of acquisition reforms. This may be due to the large number of and varying responsibilities to track and evaluate the reforms which may cause a lack of ownership over the reform outcomes.

B. LESSONS LEARNED FROM ACQUISITION REFORM INITIATIVES

Some experts have asserted and testified before Congress that, throughout the history of acquisition reform, the “limited number of available reforms have all been recycled. You can centralize or decentralize. You can create a specialist acquisition corps or you can outsource their tasks. You can fly before you buy or buy before you fly. Another blue-ribbon study, more legislation, and a new slogan will not make it happen” (Etherton & Punaro, 2014, p. 4). This point of view is somewhat pessimistic, but it does present a few themes that have been recurring in the past few decades of defense acquisition reform. These similarities warrant examination to identify the positive and negative outcomes of the various reforms that have built upon each other to either obtain efficiencies or further encumber the acquisition process.

The reform initiatives of the past twenty-five years have shown similarities in the areas of implementing measures to streamline the acquisition process, increase competition, achieve accountability, improve oversight, promote transparency, and incentivize contractors to meet the government’s goals of delivering quality products in a timely fashion and within budget. Furthermore, these themes consistently overlap among the different acquisition reforms implemented throughout the time period being researched.

(i) Competition

Many of the reforms have focused on increasing competition to lower program costs and to leverage innovation from various contractors, specifically the latest technology that is available on the commercial

market. Reforms such as FASA, FARA, and the proposed Thornberry initiatives, all partially focused on opening avenues for greater use of commercial items to achieve the goals of acquisition streamlining, capitalizing on the market's cutting edge innovations, reducing program costs, increasing competition, and reducing proprietary contractor data. Avenues that other reforms have taken to increase competition include encouraging the purchase of open architectures and complete technical data packages, as was the case with WSARA, or lifting the requirement for the cumbersome submission of certified cost and pricing data levied on commercial contractors, as was the case with FASA. The various iterations of BBP focus on multiple areas to incentivize contractors to meet the government goals, including encouraging the acquisition workforce to utilize fixed price incentive contracts, build stronger relationships with industry through providing draft requirements early in the acquisition process, and to better define the best-value sought in competition or the technically acceptable requirements in LPTA, as well as to reward excellency among suppliers.

(ii) Oversight and Accountability

Other reforms such as the GPRA, FASA, SARA, and WSARA instituted channels for oversight and accountability through implementing reporting requirements, approving officials and approval requirements for various technical and budgetary requirements, and certification of cost and pricing requirements for the contractor to report. Still other reforms, such as BBP and the Thornberry initiatives, propose to decentralize the approval authority for those heightened accountability requirements in an effort to streamline the acquisition process. Reforms such as DAWIA, GPRA, FASA, and WSARA take steps to improve transparency through the following:

setting standards for across-the-board certification of acquisition professionals to ensure the workforce is proficient in their competency;

instituting requirements for producing budgetary and technical execution plans;

reporting performance results;

enacting requirements for certification of cost and pricing, and empowering agencies to audit those reports; and

requiring the acquisition workforce to meet technology maturity milestones and report on those achievements through peer reviews and milestone approvals prior to fully committing the government to a program.

(iii) Simplified Acquisition Procedures/Acquisition Streamlining

Additionally, FASA and FARA raised the SAP threshold, which provided greater opportunity to utilize the simplified procedures for expedited acquisition. FASA provided for determination of fair and reasonable pricing of commercial items on the basis of adequate competition, which reduced the burden and time that would be needed to validate and evaluate each proposal element to make the required determination. FARA provided the ability to set a competitive range to effectively limit competition to an amount conducive to conducting an effective competition. The BBP initiatives attempted to achieve efficiencies in shortening the acquisition timeline by “eliminating unproductive processes and bureaucracy,” specifically by “reduc[ing] the frequency of [high level] reviews” and pushing the decision authority back down into the hands of the PEOs and PMs (Kendall, 2015a).

(iv) Increasing Product Quality

FASA targeted product quality through encouraging the purchase of commercial items where possible, specifically for the DOD to take advantage of the cutting edge technology available on the commercial markets. SARA attempted to improve product quality in the acquisition

process through instituting performance based contracting where the intended outcome of the requirement is documented and the contractor, as experts in their field, is provided the flexibility to offer the best solution. SARA also worked to improve quality in acquisition by setting aside a special training fund to raise the skill level of Contracting Officers. WSARA focused on improving quality by putting into place measures to promote strong requirements development. The act attempted to improve quality through the following measures:

- instituting the requirement to conduct the AoA for objective consideration of the requirement;
- ensuring maturity of the requirement through various milestone approvals prior to committing to the program;
- mandating consideration and documented planning of sustainment phases of the program in the requirement development stage;
- employing prototype development wherever possible; and
- encouraging open architectures for greater ease of integration.

The BBP initiatives also focused on strengthening the workforce and increasing their skill level as a means to improving the quality of the products or services procured. BBP also promoted special benefits to outstanding industry performers to ensure quality contractors were incentivized to continue high quality standards for future procurements.

(v) Cost Control

GPRA instituted a requirement to develop and maintain program plans to track program performance through set performance parameters and submit annual reports for review on program status in accomplishing the cost control measures at that present point in the program. Both FASA and FARA implemented similar cost control measures through raising the SAP threshold to relieve commercial vendors from the burdensome and costly cost-and-pricing requirements previously levied upon them. Additionally,

FASA set commercial items and NDI as the preferred method of acquiring goods wherever feasible, to cut down on the development costs. FARA removed the requirement for commercial vendors to comply with the CAS to further unburden commercial industry partners and eliminate additional costs associated with the requirement. WSARA focused on improving cost control by putting into place measures to ensure solid requirements development and requirements to consider sustainment of the product in the developmental stages as a means to avoid excessive modifications in the advanced stages of the acquisition process. WSARA also worked to control costs by encouraging open architectures and the purchase of complete technical data packages with the intent to maximize competition in the future and eliminate the contractor controlled proprietary data. Additionally, WSARA cemented requirements for cost analysis early in the design process and appointed the Director of CAPE to report directly to the Secretary of Defense to provide independent assessments on cost analysis and the planning and programming phases of the PPB&E system. The BBP initiatives attempted to achieve cost controls by assigning the proper type of contract to disincentivize cost creep and reward thrift and efficiencies on the part of the contractor through aligning earned profit/fees to value to the taxpayer. The BBP also sought to eliminate redundancy within warfighting portfolios through identifying where multiple programs were pursuing similar objectives and combining those efforts into one as a cost saving initiative.

As detailed above, several of the provisions in these reforms address more than one theme in the measures that are implemented. For example, the DAWIA requirement to train the acquisition workforce impacts various themes of acquisition reform by ensuring that the workforce is abreast of the latest regulations and all of the tools available to them to accomplish the goals of the reforms. The SARA requirement to institute performance based contracting has impacts to product quality, cost control, and oversight and accountability. The FARA and FASA requirements to prefer commercial

items, raise SAP thresholds, and remove certification of cost and pricing and CAS requirements all have impacts to competition, cost control and streamlining the acquisition process. WSARA initiatives to institute the AoA and milestone approvals impact oversight and accountability, cost control, and streamlining the acquisition process through the following measures:

- ensuring system maturity by prototyping where applicable,
- mandating consideration of system sustainment at requirements development, and
- the utilization of open architectures and complete data packages.

Of BBP's many initiatives, the elimination of redundancy among programs impacts cost control and streamlining the acquisition process. The majority of the reforms have in some way attempted to streamline the process while, at the same time, enforcing the acquisition's accountability in terms of ensuring solid, executable requirements and budgetary reporting and tracking. The targets of each of the reforms are aimed to attain high product quality, decrease costs over the life of the program, and reduce the overall timeline for the acquisition.

C. CONCLUSION AND RECOMMENDATION

The preceding part of this chapter provided the reader with an analysis conducted by the authors of the impacts of existing acquisition reforms as a basis of determining a path forward for DOD acquisition reform. This conclusion will build upon the analysis of facts to present the reader with the conclusions of the authors and recommendations for the future of DOD acquisition reform.

By consistently requiring reporting data throughout the various reforms, the DOD and Congress have attempted to obtain meaningful and measurable data points in an effort to determine the success or failure of the reforms. However, because reform initiatives take considerable time following implementation to show results, the full measure of the effects of the many acquisition reforms is impossible to ascertain. The analysis and results of one reform are not fully documented before another reform is instituted. With so many overlapping reforms, conducting an assessment of a single

reform cannot provide pure and conclusive data because it cannot be analyzed in isolation. The effects of previously implemented reforms have the potential to taint any data obtained in the assessment of the reform initiative being reviewed. Additionally, the consistency of the way the data is reported is critical to accurate analysis. Over the past twenty-five years, data collection methods have evolved with the implementation of technology and by the direction of some of the reforms. Multiple data collection methods also have the potential to taint the integrity of the data and render the data incomparable. In this case, analysis of the data would be skewed as a result of inconsonant data.

In order to ascertain the effectiveness of a reform, reforms need to be evaluated in isolation without the influence of preceding reforms. In order to achieve this goal, additional reforms to the system would need to be suspended long enough for the system to stabilize. Ideally, this suspension would be for the period of the full acquisition cycle of a major weapon system. This length of a suspension would ensure that stabilization occurs across the acquisition spectrum, from simplified acquisition programs with condensed timelines to major weapons systems that typically span more than a decade before reaching completion. One estimate of the life cycle of a major weapon systems program, used in a volume of the Defense Research Journal, is approximately fifteen years from inception of such a program to its conclusion (Jones, White, Ryan, & Ritschel, 2014). The authors of this research paper recommend a suspension of all reforms to the system for a minimum period of fifteen years before implementing further reform to the acquisition process. Once stabilization has been achieved and a new reform is enacted, the authors recommend a second suspension of the same timeframe to collect data in a uniform manner and analyze the impacts of the reform in isolation. This strategy would ensure that the data collected solely represent the effects of the latest reform. This recommendation is based upon a political environment that would support such a long-term approach to acquisition reform, which based upon our research and the frequency of acquisition reforms, may be unlikely.

In closing, without accurate and relevant data on previous acquisition reforms given the incremental implementation of acquisition reform initiatives over the past twenty-five years, it is impossible to determine the success of such reform initiatives. The

recommendation of the authors would be for the legislators and Defense officials to suspend acquisition reforms for a period of approximately fifteen years in order to collect data on the previous reforms before instituting another reform. Following that suspension and the implementation of a new reform, further reforms should be suspended for a similar period of time to collect data on the results of that reform. Evaluating the reforms as implemented without influencing the system with further reforms is the only way to acquire pure data pertaining solely to that reform to assess its successes or failures. By using accurate and relevant data to determine the effectiveness of the proposed reform in isolation, it should assist in better targeting areas that require further reforms and identify areas where reform has not been successful.

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